The Oil and Gas Journal

PRODUCING REFINING MARKETING

VOL. 24. NO. 42. TULSA, OKLAHOMA, MARCH 11, 1926

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Mid-Continent Crude Market Tighter

Highest daily average estimated production week ended May 30, 1925, 2,347,984 bbls. Lowest in 1925, January 3, 1,911,730 bbls.

Piling Up of Record Gasoline Stocks Only Menace to Future Prosperity. Production Shows Decrease

By Andrew M. Rowley

Highest daily average estimated light oil production in 1925, week ended January 17, 1,525,220 bbls. Lowest in 1925, July 18, 1,374,173 bbls.

A continued heavy withdrawal of crude from storage in the Mid-Continent area, a surplus in the Pennsylvania fields and a steady and material increase in the quantity of gasoline in storage summarizes the petroleum situation at this time. The reduction in posted prices announced Monday for Pennsylvania crude resulted from the purchasing agency's buying more crude than it was selling. An opposite condition obtains in the Mid-Continent area where the large purchasers are engaging in a veritable scramble for connections and where it is estimated approximately 200,000 bbls. daily is being withdrawn from storage to meet requirements.

In all sections, the gasoline situation deserves serious consideration because of its great effect upon the price structure of both crude and refined products. Too much gasoline is being made if a really healthy condition is to be maintained during the remainder of this year. To the already enormous gasoline stocks, a large gallonage is being added with indications the season of maximum demand for this product will open with by far the greatest quantity of gasoline in storage in the history of the industry. It would be difficult to maintain crude oil prices with a weak refined market price structure.

Conditions in the Mid-Continent area seldom were on a better basis than now. The real barometer in any field is the relation between crude oil receipts and shipments and the big withdrawal from storage in this area insures a most healthy condition. The extensive drilling campaigns being inaugurated mean a spread of this prosperous condition. The one feature which all must watch carefully is, as stated above, the piling up of gasoline stocks. It will not aid the entire industry one particle to pull crude out of one tank and place it in another in the form of gasoline.

The reduction in price of Pennsylvania crude should have no effect on the remainder of the country. The Mid-Continent area with a production of more than half the entire country's output and its big refinery capacity, is the section which more and more is becoming the barometer of the industry.

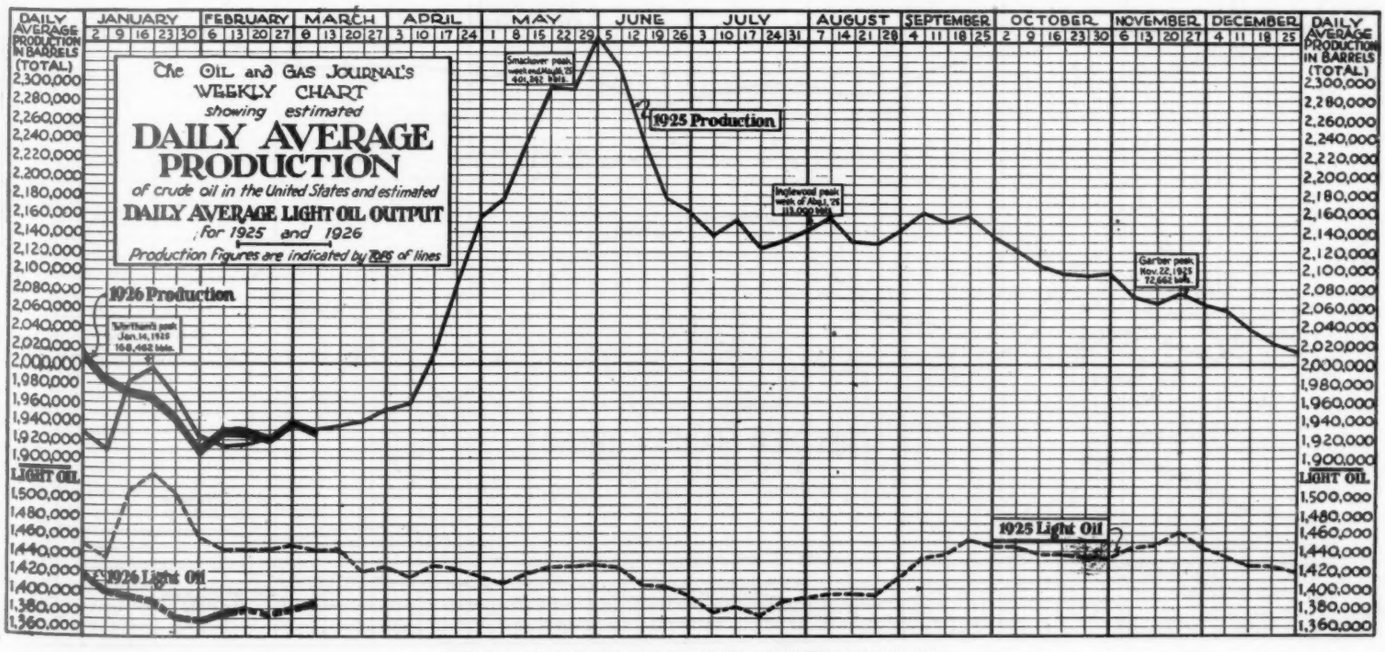
With pipe line facilities for the Texas Panhandle seemingly assured in the not far distant future, production in that section can be expected to increase materially.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity crude oil in the United States for week ended March 6, and a comparison with the previous week follows:

	Mar. 6		Feb. 27	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	44,395	.....	44,225	.....
Burbank	44,270	.....	44,520	.....
Other Osage Fields	33,030	.....	33,160	.....
Cushing and Shamrock	22,510	.....	22,545	.....
Bristow and Eastern Bristow	31,665	.....	31,815	.....
Cromwell	19,290	.....	19,705	.....
Papoose	13,715	.....	14,280	.....
Garber	25,090	.....	26,340	.....
Blackwell-Braman	14,230	.....	13,570	.....
Davenport	21,065	.....	21,170	.....
Thomas	7,430	.....	8,640	.....
Northern Miscellaneous	109,585	.....	108,670	.....
Southern Fields	67,420	.....	67,070	.....
Total Oklahoma	453,695	.....	455,710	.....
North Louisiana	49,470	.....	48,135	.....
Arkansas—				
El Dorado and Calion	7,600	.....	7,670	.....
Smackover Light	18,710	.....	18,960	.....
Smackover Heavy	.....	133,310	.....	137,250
Miscellaneous	4,325	.....	4,020	.....
Total Arkansas	30,635	133,310	30,650	137,250
North Central Texas	160,290	.....	160,400	.....
Powell	32,100	.....	32,200	.....
Mexia, Currie, Richland, etc.	16,450	.....	16,670	.....
Wortham	10,500	.....	10,715	.....
Kansas	104,310	.....	103,410	.....
Total Mid-Continent Area	857,450	133,310	857,890	137,250
Gulf Coast	.....	102,525	.....	104,820
Southwest Texas	.....	39,520	.....	40,970
Eastern	98,850	.....	98,475	.....
Rocky Mountain Area	97,860	.....	101,220	.....
California—				
Santa Fe Springs	48,500	.....	48,500	.....
Long Beach	113,000	.....	113,000	.....
Huntington Beach	45,000	.....	44,500	.....
Torrance	5,000	23,500	5,000	24,000
Dominguez	21,500	.....	21,500	.....
Rosecrans	21,000	.....	21,000	.....
Inglewood	27,000	22,000	27,000	22,000
Remainder of State	54,000	220,000	53,000	220,000
Total California	335,000	265,500	333,500	266,000
Total United States	1,389,160	540,855	1,391,085	549,040
Grand Total	1,930,015		1,940,125	

Total Decrease, 10,110 Bbls.; Light Oil Decrease, 1,925 Bbls.



WHAT AND WHERE TO BUY—PAGES 149-150-151

Refined Market Is Strong in Spots

Gas Oils, Distillates and Higher Gravity Fuels Scarce. Other Products Little Changed but Gasoline Prices Lower. Kerosene Steady

By Neil Williams

Distillates, gas oil and higher gravity fuel oils were the center of interest in the Oklahoma refined market the past week, and it was only their increasing scarcity that prevented the Group 3 situation from being utterly featureless. Other refined products were practically unchanged in their general situation.

A firmer tone has been developing in the distillate, gas oil and high fuel situation for several weeks but it was not until the past week that their scarcity became acute. Even at advanced prices buyers found difficulty in filling their needs.

The strength of these products, particularly distillates, at this time can be traced partly to the cold weather which continues to prevail in northern and eastern states causing a strong consuming demand for furnace oils. This is coupled with a demand for cracking stock by refiners who have found some difficulty in obtaining an adequate crude supply.

The position of the products has been greatly benefited by the fact that what supply there was has been in the hands of a comparatively few firm hands. This is especially true of higher gravity fuels, which under normal conditions is handled by only a few Mid-Continent refiners. The increasing number of cracking stills has resulted in the gradual elimination of higher gravity fuel and the trend now is to lower and lower grades.

The gas oil and distillate market is of particular interest as these products now are deviating from the usual trend at this time of year and because they were weak during the winter at a time when they under normal conditions should have been strong.

However, the present strength may be of only short duration as the demand is for only spot needs and the orders for immediate shipments. There apparently is no future buying of these products which would indicate buyers' belief the scarcity only a temporary flurry.

As previously mentioned other refined products were practically unchanged during the week although the continued sluggishness of gasolines has resulted in a considerable softer tone and more frequent price concessions as distress material develops.

A reduction of approximately 20,000 bbls. in daily crude runs to stills of Mid-Continent refineries on March 1 so far has not solved the over-production problem. The complete account of refinery operations appears in another part of this issue of The Oil and Gas Journal. Of the total reduction, Oklahoma refiners ought to have been helped the most as more than 12,000 bbls. of the cut was in this State.

The slight tendency toward firmness of gasoline prices a week ago seem to have disappeared in face of the fact that it is generally conceded by even the most bearish buyers that refiners cannot make a profit at the market quotations on the present crude structure.

REFINED MARKET BAROMETER

The most important developments in refined markets of the country the past week centered on the heavier oils, namely, gas oil, distillates and higher gravities of fuel. Continued cold weather in northern and eastern states has created a new demand for these burning and fuel oils which has greatly strengthened these markets, especially in the Mid-Continent. Lower grades of fuel were generally unchanged principally because of large stocks. Gasolines were spotted. Eastern markets were fairly firm but in other places no improvement was shown in demand and prices were slightly lower. Kerosenes on the whole continued firm with increased strength in some areas. Natural gasolines were inactive east of the Rocky Mountains. Other products unchanged.

Mid-Continent—Gasoline situation unchanged but prices lower. Gas oil, distillates and higher gravity fuel oil strong and scarce. Other fuels unchanged. Kerosene steady. Natural gasolines inactive. Lubricants uncertain.

Atlantic Seaboard—Refined market still firm but future uncertain due to crude changes. Gasoline prices unchanged. Kerosene and fuel oil firm. Lubricants dull, especially cylinder stocks. Other products inactive.

Pennsylvania—General reduction in Pennsylvania grade crude causes unsettled refined market. Lubricants and gasolines slow.

Chicago—Gasoline still dull. Kerosene firmer. Gas oil, distillates and lighter fuel demand heavy.

California—Refined market unchanged but some products uncertain.

Gulf Coast—Lubricants unsettled. Prices lower on some grades.

Although most buyers admitted that gasoline prices were "too low," they showed no inclination to increase their purchases. A few refiners reported a marked increase in the amount of gasoline ordered out on annual contracts, which caused a slightly better feeling, but, on the other hand, the open market continued practically stationary.

Pennsylvania Reduction

Although explained as a purely local condition, the general reduction in Pennsylvania crude Monday proved an important bearish factor. Some buyers looked on it as a possible forerunner of a Mid-Continent change and were more hesitant than before to place orders. The reduction was reflected in a greater tendency on the part of refiners to make concessions to move their gasoline.

While refiners prefer a lower crude schedule, they realize that a change now would mean a wholesale cut in refined prices on large quantities of gasoline stocks manufactured from the higher priced crude, meaning enormous financial losses. They now are of the opinion that there must be an increase in gasoline demand in the near future which would help to relieve them of these costly stocks, before crude prices are lowered.

As for crude, the Mid-Continent situation is known to be continuing on a sound basis, and, under present conditions, it is unlikely that major purchasers will make any downward change soon. However, if further reductions in crude runs to stills are made by the Mid-Continent a new light may be focused on the situation. Refiners on the other hand are relying to a great extent on further

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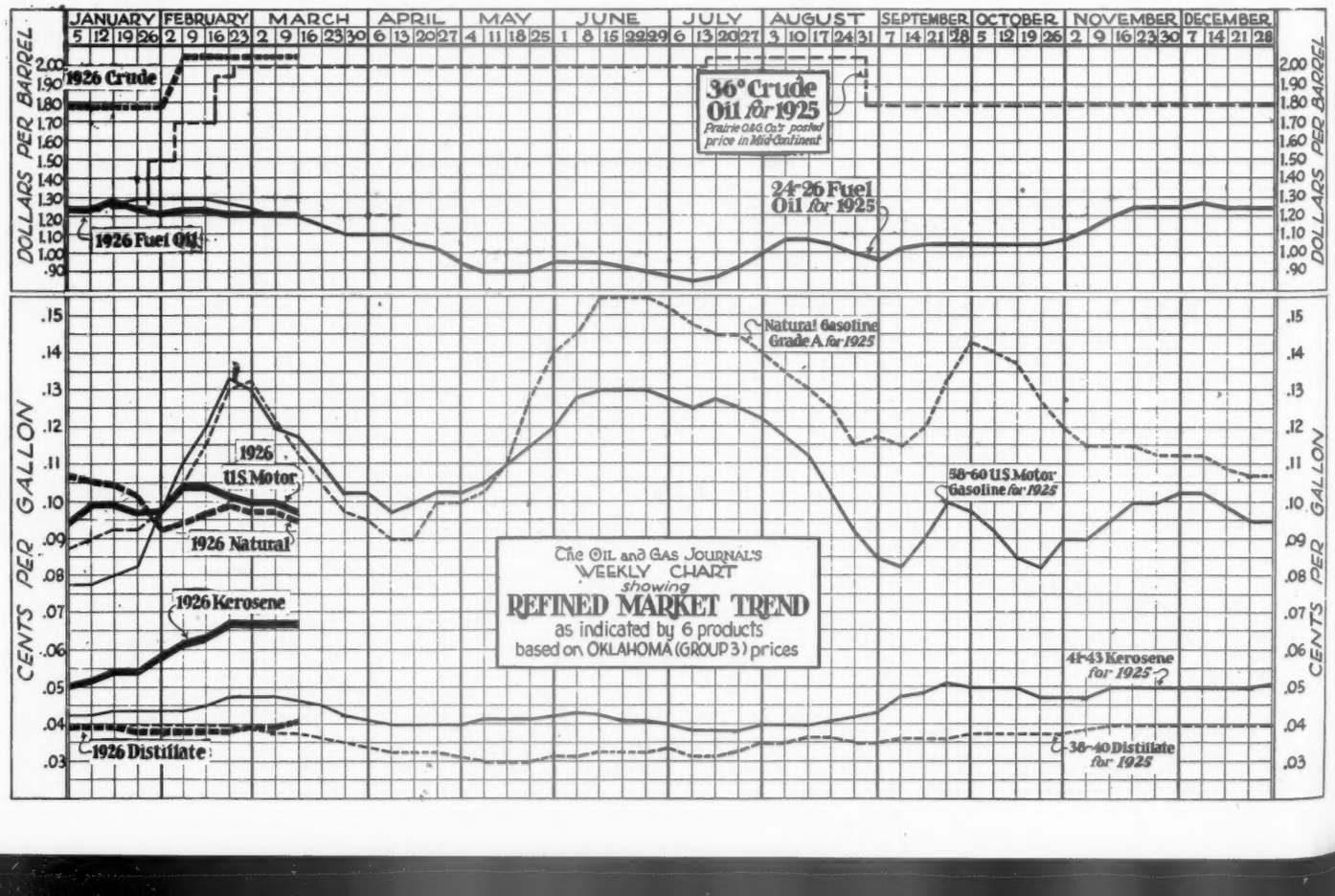

JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER
DOLLARS PER BARREL
1926 Crude
1926 Fuel Oil
36° Crude Oil for 1925
Prairie O&G Co.'s posted price in Mid-Continent
24-26 Fuel Oil for 1925
CENTS PER GALLON
Natural Gasoline Grade A for 1925
1926 U.S. Motor
1926 Natural
1926 Kerosene
58-60 U.S. Motor Gasoline for 1925
41-43 Kerosene for 1925
36-40 Distillate for 1925
1926 Distillate
The Oil and Gas Journal's WEEKLY CHART showing REFINED MARKET TREND as indicated by 6 products based on OKLAHOMA (GROUP 3) prices

Mid-Continent Refiners Reduce Runs

Daily Throughput 5 per cent Less March 1 Than on Same Day of Previous Month. Oklahoma Plants Lead. Crude Situation Remains Sound

By Neil Williams

Higher crude prices, together with a sluggish demand for nearly all petroleum products, apparently cast a shadow over Mid-Continent refinery operations during February. This resulted in crude runs to stills being reduced 19,855 bbls. on March 1 compared with February 1, according to the monthly review made by The Oil and Gas Journal.

Crude runs to stills of refineries in the five states comprising the Mid-Continent totaled 367,790 bbls. on March 1 while on February 1 a total of 385,845 bbls. were consumed in making petroleum products. The decrease of 19,855 bbls. amounted to slightly more than 5 per cent.

A 5 per cent reduction in runs is not generally regarded by market students as being large in comparison with the total throughput for the Mid-Continent refineries but nevertheless it indicates that operations are being slackened to offset somewhat the lack of demand for the major refined products, of which stocks have been piling up.

With the decrease March 1, there has been a drop in daily crude runs of 24,210 bbls. since January 1 but close students of the situation expect a much greater reduction by April 1 unless an improvement is shown in demand for refined products. The extremely narrow margin of profit, if any, on which refiners must operate at present crude prices and relatively low refined market is bound to force many refiners to operate at a minimum. Also, the difficulty with which crude can be obtained, even at the higher prices, will prove an important factor in operations the remainder of the month even if plants could operate profitably.

Reduction in Runs

One of the most important developments in the present refinery picture lies in the reduction Mid-Continent refiners have made compared to operations of a year ago. While a similar situation exists now as then, runs to stills on March 1 were 20,490 bbls. less than on the same day last year.

Refiners generally are showing a greater desire to keep operations at a minimum than they were last year as during February and March of last year crude runs were reduced only slightly, the total daily reduction during the two months amounting only to approximately 5,000 bbls.

At that time refiners apparently were not especially worried over building up stocks during early spring, many feeling that this was necessary in order to provide for the summer demand. Since then consumption of refined products has become more stabilized and buying steadier, thus making it unnecessary for refiners to carry large stocks to meet unexpected or seasonal demands.

This situation is resulting in refiners regulating crude runs more and more to their daily demands rather than on anticipated future needs. This in all probability accounts for the greater reduction in refinery throughput now than at this time last year.

It is known that stocks of refined products, with exceptions, are much larger than they were a year ago but this is due almost entirely to the gradual accumulation from the continual day by day overproduction.

Decrease Almost General

Barring increased demands for crude from outside sources, the decrease in refinery runs and the increased oil production would result in a weaker crude situation. This was indicated in the fact that Mid-Continent refiners on March 1 were running only 43 per cent of the daily light crude production as against 46 per cent on February 1. However, 43 per cent of the crude production is known to be an exceptional large run for Mid-Continent refiners and as a result the fundamental crude situation is not endangered materially at present from this source.

MID-CONTINENT REFINERY OPERATIONS

Table No. 1

(Based on Plants March 1, 1926, and February 1, 1926)

	*No. Plants	Capacity	Plants Operating Mar. 1	Daily Runs Mar. 1	Plants Operating Feb. 1	Daily Runs Feb. 1	Daily Decrease Mar. 1
Oklahoma	58	273,700	44	153,150	47	167,385	14,235
N. Central Texas	46	177,100	32	80,075	34	83,525	3,450
†Kansas	23	130,900	18	80,195	18	83,170	2,975
N. Louisiana	6	37,500	6	31,400	6	31,800	400
Arkansas	10	30,000	9	21,170	9	19,965	‡1,205
Total	143	649,200	109	367,790	114	385,845	19,855

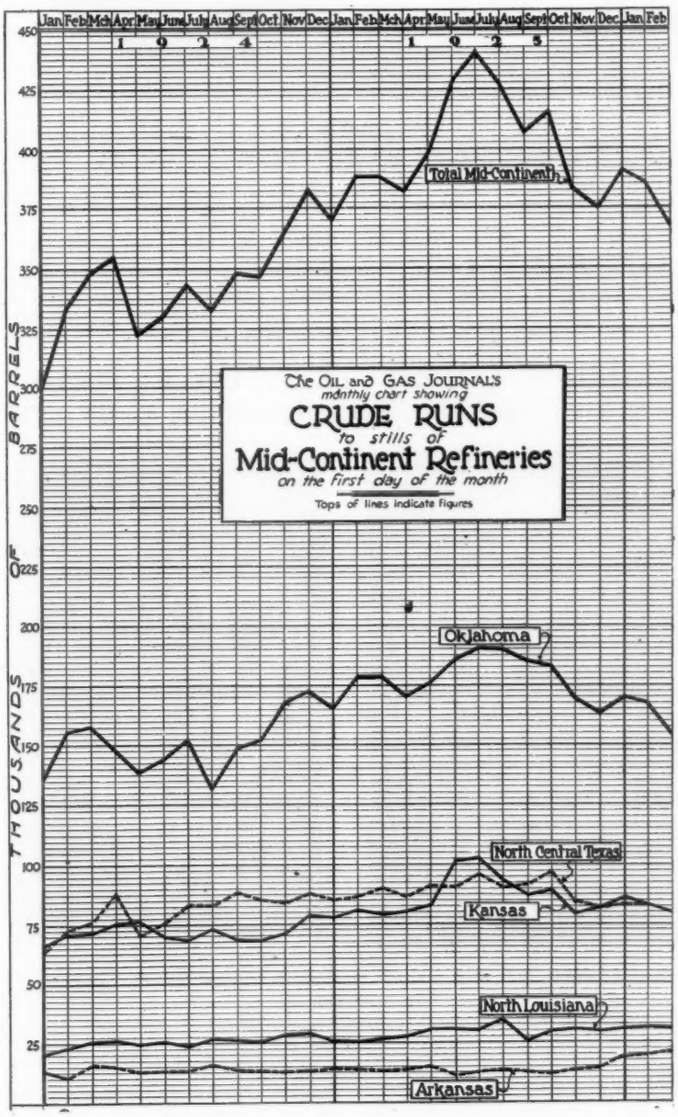
*Does not include plants which have been shut down one year or longer. †Includes one Missouri plant. ‡Increase.

Table No. 2

(Based on Plants March 1, 1926, and March 1, 1925)

	*No. Plants Mar. 1,'25	Capacity Mar. 1,'25	Plants Operating Mar. 1,'25	Daily Runs Mar. 1,'25	Daily Decrease Mar. 1,'25
Oklahoma	61	272,200	53	178,350	25,200
North Central Texas	46	171,250	42	90,225	10,150
†Kansas	27	122,500	23	79,325	‡870
North Louisiana	8	39,300	6	27,100	‡4,300
Arkansas	14	36,200	11	13,280	‡7,890
Total	156	641,450	135	388,280	22,290

*Does not include plants which have been shut down one year or longer. †Includes three Missouri plants. ‡Increase.



The decrease in crude runs was almost general throughout the Mid-Continent as Arkansas was the only district in which a gain was shown. The biggest decrease was in Oklahoma where the refinery throughput was reduced for a total of 12,435 bbls.

As for the other three districts, North Texas refiners cut their runs 3,450 bbls. daily to 80,075 bbls.; Kansas refiners, 2,975 bbls. to 80,195 bbls., and North Louisiana refiners 400 bbls. to 31,400 bbls.

Much of the reduction in Oklahoma was traceable to the Okmulgee plant of the Barnsdall Refineries, Inc., recently acquired from the White Phillips Co. This plant, which last month was running approximately 4,000 bbls. daily, now is operating only on rerun stock. Gilmer Refining Co. at Ringling also is shut down temporarily.

Where Increase Was

So general was the reduction in runs in Oklahoma that there were only seven plants which increased operations. The largest gain was made by the Johnson Oil & Refining Co. at Cleveland which boosted its throughput 1,000 bbls. This was made necessary, it was reported, by an increase in the company's service station business. The Johnson company now is in the midst of an extensive expansion and improvement program at its Cleveland plant by which the capacity will be increased 1,500 or 2,000 bbls. daily.

Among plants decreasing runs were the Champlin Refining Co. at Enid, the Imperial Refining Co. at Ardmore, Marland Oil Co. at Ponca City, and Pierce Petroleum Co. at Sand Springs.

The Tidal Refining Co. plant at Drumright, which was shut down the middle of February for general repairs is expected to resume operations in the near future. This plant was listed as running on February 1, so its temporary shut down is responsible for much of Oklahoma's total decrease.

In Texas there were few important changes in refinery operations. Nine plants reported decreases in runs and five increases but in the majority of cases these differences were only slight. North Texas refinery runs also have been increased since the first of the month by the resumption in operations of the Burkburnett plant of the Tidal Western Oil Corp. This plant is listed in the accompanying table as shut down, accounting for 2,000 bbls. of the decrease in total runs, but it resumed operations March 6. The shut down was for slight repairs and cleaning stills.

Wilson Brothers Refining Co.'s plant at Wichita Falls, Tex., is credited with 1,000 bbls. of the North Texas decrease as it now is operating only on rerun stock. It had been running about 1,000 bbls. daily.

Possibilities that an old North Texas refinery would join the active list again came to light when E. D. Levy, president of the Pierce Petroleum Corp., declared that the company's Fort Worth plant would not be abandoned. No definite plans for operation were made known. The plant has been shut down 3 years.

The Lucas Oil & Refining Co. also is putting in shape the old refinery it recently acquired at Grand Prairie and the Texas Pacific Coal & Oil Co. is working on its new plant at Fort Worth.

Kansas Runs

In Kansas, more plants increased than decreased runs but all gains were offset by a cut of 4,600 bbls. daily at the Roxana Petroleum Corp.'s plant at Arkansas City. In the accompanying table

(Continued on Page 134)

Cooperation Was W. P. R. A. Keynote

Progress Toward Stabilization of Mid-Continent Refining Industry To Be Continued During the Present Year

By C. O. Willson

FORT WORTH, Tex., Mar. 5.—A general agreement that the association should continue the same policies which have marked its endeavors during the past year was the outstanding development of the annual convention of the Western Petroleum Refiners Association which closed here today.

Probably in no previous meeting of Mid-Continent refiners was harmony as apparent as it has been at the three-day meeting devoted to the discussion of mutual problems affecting all departments of refinery operations. The meeting climaxed a year of endeavor by association officials who have stressed the desirability of cooperation and mutual confidence on the part of those who collectively constitute the most important manufacturing group of the oil industry.

COVERED LAST WEEK

The proceedings of the first two days of the annual convention of the Western Petroleum Refiners Association were covered in the March 4 issue of The Oil and Gas Journal. All the principal addresses will be found in that issue.

The accomplishments toward which great progress was made during the past year and which will continue to be the goal during the coming 12 months were summarized by speakers as the "stabilization of the Mid-Continent refining industry." That has meant more attention being paid to statistical information with the definite purpose in mind of preventing overproduction with all its accompanying ills. This includes the prevention of large inventories of either crude or finished refined products during dull periods. It also means that operators in the future will continue to concentrate their efforts to increase their plant efficiency rather than enlarging their operations from the standpoint of crude runs to stills. Finally in the marketing and transportation of plant output there is to be a recognition of the fact—clearly shown during the past year—that their interests are mutual in the solution of most problems.

In the business sessions and the informal gatherings held during the meeting much of the credit for the association's achievements was given to F. A. Pielsticker, vice president of the Skelly Oil Co., president of the association, and to Howard Bennette, managing director, who will continue to direct the association's work. Pat Malloy, president of the Constant Refining Co., Tulsa, and former president of the association, at the annual banquet Wednesday night presented a silver service to President Pielsticker as a token of the membership's appreciation of his leadership during the past two years. Mr. Malloy in his address reviewed briefly the history of the Mid-Continent refining industry, tracing the part the association has had in its remarkable growth and concluding with a fine tribute to Mr. Pielsticker and the part he has played in bringing about the present commanding position of that area in petroleum refining.

In the selection of officers and members of the executive committee and board of directors, the only changes made were necessitated by resignations of inability to serve another year. P. M. Miskell, general manager of the Empire Refineries, Inc., Tulsa, who has served the association as a vice president for six years was the unanimous choice for president. Mr. Miskell as first vice president has been actively associated with the work of the Pielsticker administration and in accepting the presidency announced his intention to carry on the same program. (A photo and sketch of Mr. Miskell appeared in the March 4 issue of The Oil and Gas Journal).

Roy B. Jones, vice president of the Panhandle Refining Co., Wichita Falls, Tex., and George D. Locke, vice president of the Barnsdall Refining Co., Chicago, were reelected vice presidents. C. L. Henderson, vice president of the Vickers Petroleum Co., Wichita, Kans., was also elected a vice president. Mr. Henderson has been active in association work as chairman of the technical committee.

New Members of Board

The new members of the board of directors are E. H. Eddleman, vice president of the Texhoma Oil & Refining Co., who succeeded N. H. Martin, resigned; C. E. Gerteis, of the White Star Refining Co., succeeding H. B. Earhart; J. E. Shatford, vice president of the Ouachita Valley Refining Co., El Dorado, and E. D. Levy, president of the Pierce Oil Corp., St. Louis.

In addition to those just named the following constitute the members of the executive committee and board of directors:

Executive committee—P. M. Miskell, Roy B. Jones, George D. Locke, C. L. Henderson, ex-officio members; H. T. Ashton, Lubrite Refining Co., St. Louis; D. E. Buchanan, Chestnut & Smith Corp., Tulsa; S. C. Collins, Marland Refining Co., Ponca City; E. W. Goebel, Kansas City Refining Co., Kansas City; Elliott Jones, Elliott Jones & Co., Inc., San Antonio; J. H. Miller, Miller Petroleum Co., Kansas City.

Board of directors—H. T. Ashton; V. E. Bolene, Bolene Refining Co., Enid, Okla.; D. E. Buchanan; W. K. Campbell, Western Oil Corp., Tulsa; S. C. Collins; L. R. Crawford, Producers & Refiners Corp., Denver; A. L. Derby, Derby Oil Co., Wichita, Kans.; E. H. Eddleman, Texhoma Oil & Refining Co., Wichita Falls, Tex.; A. F. Garrett, Tidal Refining Co., Tulsa; C. E. Gerteis, White Star Refining Co., Detroit, Mich.; E. W. Goebel; J. L. Gray, Shaffer Oil & Refining Co., Tulsa; R. R. Irwin, White Eagle Oil & Refining Co., Kansas City; Elliott Jones; A. E. Landsittel, Globe Oil & Refining Co., Tulsa; E. D. Levy, Pierce Petroleum Corp., St. Louis; L. B. McCammon, Transcontinental Oil Co., Tulsa; C. L. Mayhall, Imperial Refining Co., Tulsa; J. H. Miller; D. W. Moffitt, Mid-Continent Petroleum Corp., Tulsa; C. C. Peppers, Peppers Gasoline Co., Enid, Okla.; F. A. Pielsticker, Skelly Oil Co., Eldorado, Kans.; J. E. Shatford, Ouachita Valley Refining Co., El Dorado, Ark.; H. A. Trower, Phillips Petroleum Co., Bartlesville, Okla.; J. L. Walsh, Continental Oil Co., Kansas City; G. G. Woodruff, Roxana Petroleum Corp., St. Louis.

C. L. Henderson
Newly Elected Vice President

No changes are contemplated in the association's staff. H. K. Davis will continue as statistician and Fayette B. Dow as Washington, D. C., counsel.

Technical Program

Due to the time required for the presentation of the prepared papers there was little general discussion at the meeting on Wednesday attended by approximately 75 superintendents and others directly connected with plant operations.

Wayne Rice, superintendent of the Marland Refining Co. plant at Ponca City, Okla., following a paper on refinery evaporation losses told of the results obtained at the Marland plant with burlap covering for tanks. He said the covering costs about $30 for a 1,000-bbl. tank. This usually lasted about one year. He said it had been found the covering caused oxidation, the rivet heads often being replaced in one year. He also recommended that welded tanks be subjected to a light pressure with air to determine leaks before being used for storage. He said the leaks could usually be easily closed and thus prevent evaporation losses.

It was also brought out in the discussion that no definite comparison can be made between aluminum and white paints in lowering evaporation losses. It was stated that in some cases the white paint was preferable and in other cases the opposite situation obtained depending on the grade or quality of the paint.

Hale's Address

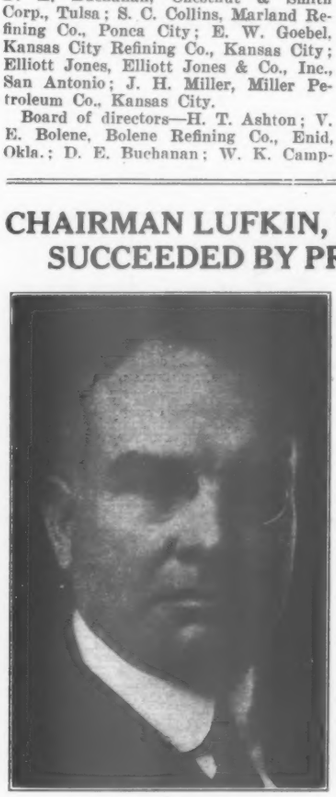
Isaiah Hale, safety supervisor of the Atchison, Topeka & Santa Fe Railway Co., spoke to the technical men in one of the most discussed addresses of the entire convention. Deviating from the usual type of safety talk concerned with rules and regulations, Mr. Hale's address was largely inspirational.

Relating the experience of his company and that of other companies with which he was acquainted he told of the unsatisfactory results obtained when safety work was confined to the issuance of instructions and the erection of safeguards around hazardous equipment. He said he had found the only way to prevent accidents was to secure the right mental attitude on the part of the employes. He urged the superintendents to attack this problem with the view of creating a spirit of cooperation and friendliness on the part of their employes which would result in the latter taking an attitude toward their work which would reduce accidents to the minimum.

Edward P. Bailey, treasurer of the National Airoil Burner Co., and former president of the American Oil Burner Association, devoted the greater part of his talk to the presentation of data tending to show that the oil industry would continue to need the oil burner to absorb a large part of crude oil produced. He quoted at length from several addresses made recently by prominent oil men before the Federal Oil Conservation Board in which they had outlined conditions which supported his contention that no serious shortage of crude is probable and the burning of oil as fuel is not

(Continued on Page 131)

CHAIRMAN LUFKIN, TEXAS CO., RETIRES; SUCCEEDED BY PRESIDENT A. L. BEATY



Amos L. Beaty

(c)Underwood & Underwood
E. C. Lufkin

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, 30 Church St., New York

NEW YORK, N. Y., March 9.—E. C. Lufkin today resigned as chairman of The Texas Company, due to ill health, and is suceeded by A. L. Beaty, president of the company.

R. C. Holmes, senior vice president, becomes president.

Panhandle an Area of Great Promise

Pipe Line Program Now Under Consideration Would Solve Field's Greatest Problem and Stimulate Much Development

By C. D. Lockwood

AMARILLO, Tex., Mar. 6.—The great Amarillo Oil Field of the Texas Panhandle is difficult to discuss without the use of too many superlatives. As the familiar advertising phrase goes, it literally "must be seen to be appreciated," for no adequate conception of its magnitude and potentialities can be grasped by the average man until he stands on one of the many hills in southern Hutchinson County and realizes that as far as he can see in all directions the miniature specks on the horizon mark the spots where lonely producers have established outposts in this vast oil-bearing region.

It is, of course, absurd to talk of the present producing area as a "proven" territory some 16 miles in length by 12 or 14 miles in width as though it were destined to become one solid, unbroken mass of derricks over commercially productive wells because a barren stretch of acreage separating the Carson and Hutchinson County pools has already been clearly indicated by three or four wells which are practically dry, or at least very light producers, just a mile or two north of the Carson County line. The chief significance of the present production, however, is the tremendous potentialities which it indicates for a vast part of the Texas Panhandle country.

From a geological standpoint, thousands of acres to the west and northwest of the Hutchinson County Pool are much more favorable in many respects than that part now undergoing development, and acreage prices are going almost out of sight in that direction, along the flank of the same granite ridge which has apparently influenced the accumulation of oil in the known producing region. The play is extending northwest into Moore County, especially where wildcat acreage is already commanding as high as $35 an acre. It is also extending northward across the Canadian River in Hutchinson County, where some good wells have been brought in. But just now the most intensive drilling activity is in Hutchinson County's so-called proven territory, mainly south of the Canadian River, where the oil occurs in a dolomite or very porous lime, and where several wells of substantial caliber have been brought in at various times since last October. At that time the Twin Six Oil Co. shot its No. 1 Kingsland, in Section 6, Block Y, which had been yielding about 400 bbls. and increased it to 1,100 bbls. during the first 24 hours after the shot, filling all available tankage the first day. That experiment which demonstrated the fact that the lime horizon could be shot with good results really started the Panhandle boom and several of the large Mid-Continent companies which had consistently condemned the region for the past five years began to pay serious attention to its possibilities. A couple of recent completions in the gusher class by the Marland and McIlroy interests, coming as they did at the psychological moment, intensified the play and focused public interest upon this region.

Pipe Line Program

The most important question concerning the Panhandle region now before the industry as a whole concerns the probable speed of its development and how soon the Carson-Hutchinson County Pools will exercise a dominating influence in the general market situation. The best indication of an answer to this question is found in the program for construction of pipe lines and storage facilities now actually started or definitely outlined. There is little doubt in the mind of anybody who has studied the conditions and facts in the field, that a vast reservoir of oil underlies the district now being developed even though some boosters allow their enthusiasm to run away with them.

The chief difficulty which has retarded the field's development has been the lack of transportation and that problem still remains paramount. Many wells in the field have never been drilled in properly and others have been seriously injured by long shut-down periods because there was no way to get the oil out. The pipe line work actually started now, however, clearly indicates that this one vital problem will very shortly be solved and likewise demonstrates the belated faith which some of the major concerns are showing in the field.

For some time, one 4-inch line and one 6-inch line to the Santa Fe Railroad served, or attempted to serve, the Panhandle oil field. Due to lack of experience with the peculiar type crude with its high paraffin content, these lines operated under great difficulties and could handle only a fraction of the amount of ordinary high gravity crude that they could have run. These problems are being overcome with experience, however, and the big pipe line companies now entering the field confidently expect to surmount all difficulties.

Getting Ready for Lines

The most important developments in regard to pipe lines are those of the Kay County Gas Co. (Marland), the Gulf Pipe Line Co., and the Magnolia Pipe Line Co. the former concern already has pipe on the way for an 8-inch line about 25 miles long extending from its newly acquired tank farm site in Section 5, Block Y, in the field to the town of Panhandle, on the Santa Fe. The company has also graded and started work on a battery of six 55,000-bbl. storage tanks in the field.

The Magnolia Petroleum Co. is likewise rushing construction on the first of thirty-three 55s which are to be erected at King's Mill, near the town of Pampa, also on the Santa Fe main line. These tanks are to be built three at a time as rapidly as they are needed. The company is also working on a 6-inch line which will extend about 20 miles from the field to King's Mill.

The Gulf Pipe Line Co. has not announced officially what its plans call for but the Gulf Production Co. recently acquired control of approximately 11,000 acres by pooling its leases with those of the Panhandle Refining Co. and Walter M. Priddy, and it is generally understood that the Gulf agreed to run all of the oil produced on the property. For that reason the belief is held by most observers that the Gulf will construct an 8-inch trunk line to Ranger, Breckenridge or Burkburnett, thus providing a direct outlet for Panhandle crude to the Gulf Coast.

For some time, Walter M. Priddy, of Wichita Falls, president of the Plains Pipe Line Co., which now has a 4-inch line about 30 miles long from the north side of the Canadian River to the town of Panhandle, has talked of a cooperative 10-inch or 12-inch trunk line from the field to Wichita Falls and he has had surveyors at work in the field recently. This line is undoubtedly more problematical than the Gulf's proposed outlet but it may be classed as more than a possibility. The Magnolia may also extend its line on from King's Mill to some Oklahoma or Texas point connecting with its present system as soon as the production of the field warrants the expenditure. This, in fact, is considered quite likely.

Dorset Carter, president of the Pan-Tex Pipe Line Co., which owns the 6-inch line from Pan-Tex to Amarillo, a distance of 36 miles, and a 9-mile gathering line of the same size to its Dixon Creek pump station, says he will loop this system with an 8-inch line as soon as the field's production totals 15,000 bbls. daily. The Plains Pipe Line Co. likewise proposes to loop its 4-inch with a 6-inch line.

Storage Facilities

Following is a brief resume of storage facilities in the field and along the railroad, giving the number of 55,000-bbl. tanks authorized or built by the various companies: Magnolia Petroleum Co., starting to build 33 at King's Mill; Phillips Petroleum Co., planning to build 10; Marland building 6 in the field; Skelly Oil Co. building 4 and 1 other completed; The Texas Co. has 1; Gulf Production Co. has 1; Silk has 1; the Plains Pipe Line Co. has 3 in the field and 2 at Panhandle; Amarillo Refining Co. has 1 at Amarillo; American Refining Co. has 1 in the field; a total of sixty-four 55s or a total storage capacity exclusive of lease tanks of 3,520,000 bbls.

The remarkable feature of all this pipe line construction both contemplated and actual is that it centers around a field which was producing on March 4 just 6,522 bbls. daily from 73 wells, according to the best available production estimates, or a daily average output per well of 89 bbls. The Hutchinson County Field alone, which embraces the major part of the activity and from which all of these pipe lines will lead, had 32 producing wells making just 4,348 bbls., or an average of 136 bbls. daily per well.

These figures mean very little, however, and it is evident that they are disregarded by the concerns planning to invest millions of dollars in the field, for the reason that they represent about 50 per cent facts and the same amount of guesswork. As mentioned before many of the wells have never been drilled in and many more of them have never been shot, so that their present output is very little index to their importance.

When adequate pipe line facilities are provided as they will be in the near future, some idea of the field's caliber can be obtained, and a number of surprises are probably in store for the operators.

(Continued on Page 131)

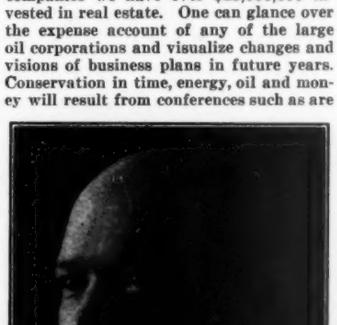
GOOD OIL YEAR, CAN BE MADE BETTER BY BUSINESS SENSE, SAYS H. F. SINCLAIR

Harry F. Sinclair, chairman of the Board of Directors of the Sinclair Consolidated companies, spent several days in Tulsa last week feeling the pulse of the Mid-Continent Field and carefully scrutinizing small clouds visible on a bright 1926 horizon. He is an optimist after surveying California, Texas and the oil in sight and in storage and he anticipates a good business year. He feels that the oil produced in 1926 will be necessary, basing his opinion upon the probable increased consumption and a greater export business.

Mr. Sinclair believes that much good will result from a frank understanding between the industry and the Government as evidenced at the first meeting of the Conservation Board when leaders of the oil business placed their cards face up on the table revealing a multitude of complicated problems not existing in any other commercial or industrial enterprise. Like most practical oil men who have analyzed their business Mr. Sinclair realizes that in the course of time the oil industry with billions of dollars invested must ventually secure profits from the business irrespective of the quantity of crude available today or the probable supply tomorrow. The price of coal is not regulated by the tonnage mined and the price of steel is not fixed because of the iron ore available and he realizes the necessity for oil product profits based upon manufacturing costs, invested capital and overhead.

Hazardous With Competition

"From the well to the consumer," he said, "every department of the oil business is hazardous with competition so keen that millions have to be spent in the marketing of oil which could be saved if duplication of service could be prevented. I have in mind the multiplication of filling stations involving an unnecessary expense of millions of dollars in which all competing companies must participate. These economies, with greater service and efficiency, will come as the result of mergers which will eventually occur. There is no sane reason why two or three stations should be in competition in any single neighborhood. In our own companies we have over $15,000,000 invested in real estate. One can glance over the expense account of any of the large oil corporations and visualize changes and visions of business plans in future years. Conservation in time, energy, oil and money will result from conferences such as are being held in Washington under government direction where the fact finders hope to render some decision of benefit to the oil industry as well as the nation.



Harry F. Sinclair

Each Year Develops Changes

"Each new year develops changes in the oil business and there is always a new perspective. Not so many months ago we were figuring the total production of oil without special regard to the light and heavy oils which makes a big dif-

(Continued on Page 134)

Tight Crude Market Stimulates Deals

Scramble for Oil Results in High Prices Being Paid for Production and Acreage. Wide Territory Involved

By J. L. Dwyer

With approximately 1,500,000 bbls. of crude being withdrawn each week from storage, the scramble for oil in the Mid-Continent area continues at a brisk pace. Pipe line connections are solicited even before a promising well reaches any appreciable depth, and in the event that production results from the test, the owners are besieged with crude oil buyers from several companies.

Many of the companies in this territory (Mid-Continent) are making every effort to purchase favorable looking production, and the owners of the 300 wildcat tests now drilling in Oklahoma need have no fear of the crude market being soft in the event that they acquire a producing property.

The recent transactions which resulted in the transfer of oil properties have not been confined to any one sector of the Mid-Continent, but have been scattered throughout Oklahoma and Texas. These trades emphasize the eagerness of the major companies to acquire production, and some of the major companies are glancing anxiously into the future looking for next fall's production.

An official of the Marland Oil Co. is reported to have asserted this is the first time in years when that concern has been anxious about its crude supply. Pursued by phenomenal success in northern Oklahoma, the Marland Co. has wildcatted extensively with good results. It has shared in several prolific pools, and its investments in the Tonkawa Field gave it a tremendous production. Acting while this production was flush, the Marland Co. contracted with the Standard Oil Co. of New Jersey to supply 20,000 bbls. of crude daily for a long period. This crude is delivered south of the Burbank pipe line station. During the past year, the daily production of the Marland Co. held up substantially, but recent declines with no offsetting increases in daily oil yield have made inroads on the stocks of crude which this company maintains. During the last year, excepting the time when the Garber Field was at its peak production, the Marland Co., it is said, found it necessary to draw heavily upon stocks. Marland's present daily production is slightly more than enough to fulfill the contract with the New Jersey company, and in addition it must be remembered that additional refining capacity is under construction at Ponca City.

Plans of the Roxana Petroleum Corp. to build a refinery at East Chicago, Ind., causes the inquiry as to where the crude necessary to run it is to be procured. During the year just passed, the daily production of the Roxana was reported insufficient to meet its refinery requirements, and during 11 months of the year, this concern was drawing upon its crude stocks. The Roxana, however, has substantial crude stocks. It is reported that the Roxana will enter quite spiritedly into the Canadian marketing territory, feeling that this spot has long been neglected by the American industry. The Roxana plans by the use of lake tank steamers, to ship huge amounts of refined products into the Canadian region, and launch a sales campaign. In this it will have many local advantages which, obviously, American companies do not enjoy.

During the past week a deal was made for an interest in one of the promising leases in the "south country" as the region southwest of Okmulgee is termed. The Amerada Petroleum Corp. purchased a one-half interest in the 160-acre discovery lease in Section 29-8-9. This lease was drilled by the Kingwood Oil Co. of Okmulgee and the Yeager Oil Corp. also of Okmulgee, and one producing well making 375 bbls. daily was found in the Papoose sand. The Amerada Petroleum Corp. paid $400,000 for the half interest which was composed of the three-eighths share of the Yeager, and a one-eighth which was owned by the Kingwood Oil Co. The property is now owned jointly by the Kingwood Oil Co. and the Amerada Petroleum Corp. The Yeager Oil Corp. still retains a one-fourth interest in the royalty under the property.

The Yeager Oil Corp. is an Oklahoma corporation formed in August, 1925, and has an authorized capital of $100,000 with $64,000 outstanding. Almost all of the stockholders in this concern are interested in the oil business. The officers are C. B. Bunte, president; John L. Brock, Jr., vice president, and L. W. Cranston, secretary-treasurer. Directors are Harvey Heller, J. L. Brock, Jr., C. B. Bunte and Richard Hughes. This company holds several leases close to the new well which were not included in the sale to the Amerada, and it also has an interest in several hundred acres of royalty close to the well.

The Amerada Petroleum Corp. is evidently convinced that the territory around the Kingwood-Yeager well will produce a good quantity of oil, for it paid $1,500 an acre for the 40-acre lease owned by the Fuhrman Petroleum Co., a quarter mile west of the well.

As an indication of the prices which favorable looking leases adjacent to new oil properties command, the Amerada Petroleum Corp. entered the new Crane-Upton County Field in Texas, and paid over $400 an acre for a lease which adjoins the Independent Oil & Gas Co.'s block.

The Marland Oil Co., through the Kay County Gas Co., its pipe line system, has made a contract with the Dixon Creek Oil Co. to purchase 1,500,000 bbls. of crude oil from the Panhandle Field. The sale price of the crude is the regular price posted by the Kay County Gas Co. in the Panhandle region, but the Marland Co. further stipulated in the agreement that it would meet any price offers made by other major pipe line systems for Panhandle crude. The Dixon Creek Oil Co. has a daily production of 1,000 bbls.

Several large Mid-Continent companies have strengthened their position in the Texas Panhandle recently through large purchases of acreage. The largest transaction both in point of cash that changed hands as well as the amount of acreage involved was the deal whereby the Gulf Production Co. acquired control of 11,573 acres north of the Canadian River, in Hutchinson County, for a cash consideration of $1,000,000. In this deal, the Gulf pooled about 2,500 acres that it already owned, and the remainder of the property represents land controlled by W. D. Cline, of Wichita Falls, and the Panhandle Refining Co. The latter concern holds a lien of one-fourth of the oil produced, giving it the right to purchase this amount of the production at any time, while the Gulf is to operate the property and is understood to have agreed to run all of the oil produced. This lends weight to the rumor that the Gulf will build a trunk pipe line from the Panhandle Field to Wichita Falls.

The Gulf Production Co. also bought five quarter sections from Whittenburg in Sections 63, 65, 67, 71 and 73, Block 46 H. & T. C. R. R. Co. survey, adjoining the Canadian River on the south. The price was $500 an acre cash and $500 out of one-fourth of the first oil produced. This acreage is in semi-proven territory, but is undeveloped. It is interesting to note that all of the Gulf's acreage in these two purchases is north of the area now undergoing the most active development.

The Marland Oil Co. of Texas bought 800 acres from the Plains Petroleum Co. in Sections 17, 18, 19, 24, 25 and 26, Block Y, paying $105,000 in cash and an equal amount of one-fourth the oil. There was one well on the property at the time making 30 bbls. daily. The same company bought 320 acres from Belle Wisdom for $25,000 cash and $46,000 in oil. Marland also purchased the south half NW of Section 14, Block X02, north of the Canadian River.

The Midwest Refining Co. acquired a half interest in 40 acres in the NE SE of Section 5, Block Y, from W. H. Holmes by agreeing to drill three wells free. The McMan Oil & Gas Co. bought from Holmes & Currie the north 50 acres out of the east 100 acres of the NW quarter of Section 5, Block Y, for $50,000 cash and $12,500 in oil. The Spring Creek Oil Co. bought from W. H. Holmes the NW of the SW of Section 5, Block Y, for $50,000 cash and a one-eighth overriding royalty.

Other important deals in the field have been made by the Phillips Petroleum Co. It paid Coble and associates $400,000 cash and $600,000 in oil for 400 acres in Sections 12 and 13, Block Y, or at the rate of $2,500 an acre. On this property at the time of the sale there was one producing well estimated at 700 bbls. daily, one well on top of the pay and one well drilling around 2,000 feet. The Phillips Petroleum Co. also took over the properties of the Gibson Oil Co. and the Pulaski Oil Co. so that Phillips now has about 16,000 acres in the so-called proven district and about 40,000 acres in the favorable part of the Panhandle territory.

TIDEWATER-ASSOCIATED CO. MERGER MAY BE EXPANDED BY ACQUISITIONS

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, 30 Church St., New York

NEW YORK, Mar. 6—The Tide Water Associated Oil Co., a holding company, with assets totaling a quarter of a billion dollars, has been formed to acquire control of the Tide Water Oil Co., and Associated Oil Co., it has been announced by Blair & Co., and Chase Securities Co., who, with associates, recently purchased control of Associated Oil Co.

The bankers did not place a value on the common stock of the new company, but it is expected it will be approximately $30 a share, based on which Tide Water would go into the consolidation on the basis of $40 a share, and Associated Oil at $60 a share.

Both Units Successful

"Each company has a long record of successful operation," Axtell J. Byles, president of the new company, said. "In the opinion of the management the new company will be one of the best balanced units in the petroleum industry, well fortified in production, transportation, refining and marketing. The refineries of the new company on the East and West coasts and in the Mid-Continent Field of the United States will be assured of supplies of crude oil from the long-lived and large reserves of the Associated Oil Co., on the Pacific Coast and of Tide Water Oil Co., in the Mid-Continent and Eastern Fields. The tanker fleets of the two companies operating through the Panama Canal and elsewhere make it possible under the new relationship to transport crude oil or refined products most economically from sources of supply to both foreign and domestic markets, including movements between the two American coasts.

"Each company has had the benefit of a sound development under conservative management. These principles will continue as the policy of the new company. Its board of directors will consist of Henry W. de Forest, of New York, chairman of the executive committee of Southern Pacific Co.; W. F. Humphrey, of San Francisco, director of Associated Oil Co.; Paul Shoup, of San Francisco, president of Tide Water Oil Co.; Robert McKelvy, of New York, vice president of Tide Water Oil Co., Axtell J. Byles, of New York., president of Tide Water Oil Co.; E. L. Shea, of New York, vice president of Tide Water Oil Co., and George White, of Marietta, Ohio.

"The officers of the new company will be Mr. Byles, president; Messrs. Shoup, McKelvy and Shea, vice presidents."

Standard Oil Co. of New Jersey is understood to have a substantial stock interest in Tide Water Oil.

Aside from its great financial interest, the Tide Water-Associated Oil merger is of considerable importance to the oil trade, representing as it does the creation of an oil organization of about equal strength east and west of the Rocky Mountains. The Tide Water Oil Co., is

Axtell J. Byles

an all around organization operating east of the Rockies, Associated the same on the Pacific Coast.

Tide Water Oil Co. has a considerable export business in South America and in Europe. Associated Oil exports considerable petroleum to the Far East. Both companies are equipped with tanker tonnage, used in the export trade and to carry crude to their refineries which are located at Atlantic or Pacific ports.

In quarters usually well informed, the

(Continued on Page 131)

At Last!

Adjustable Absorbers and Blending Stills!

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This new equipment is now in operation in a number of plants, and the results show the same high efficiency obtained in Newton Equipment, plus the flexibility necessary to meet the unequal volume of gas coming to the plant. From 10% of normal to an overload of 100% is obtained. Write us for full information.

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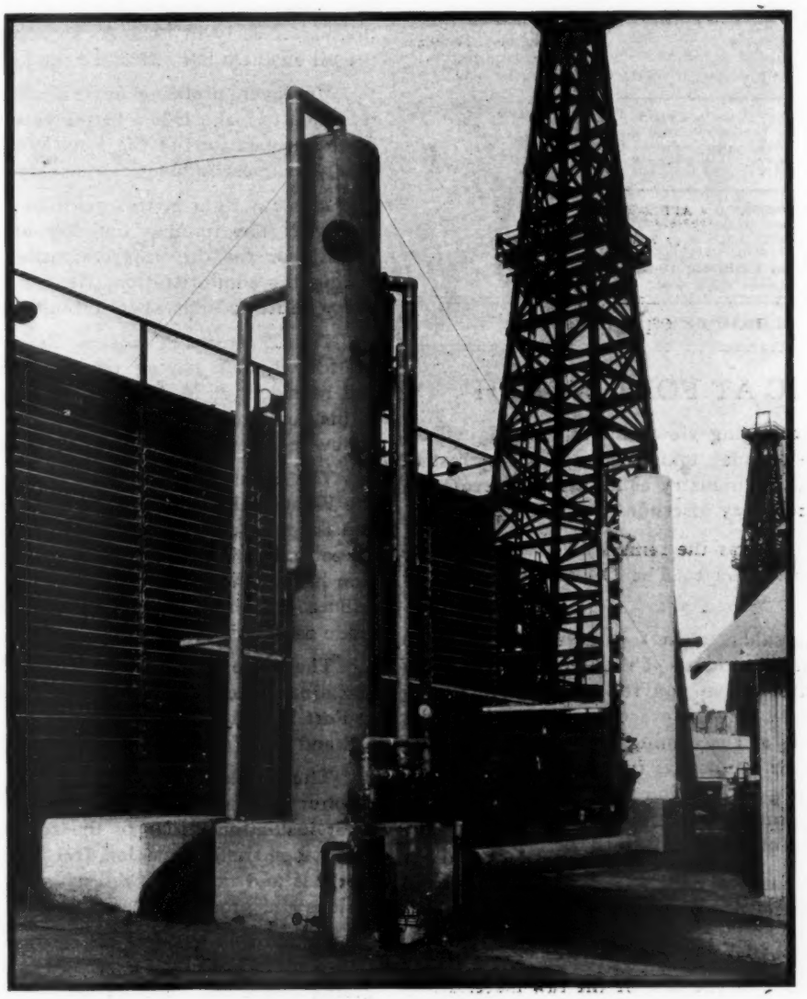

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Kennedy Bldg.,
Tulsa, Okla.

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Los Angeles, Calif.

REFINERS CONSTRUCTION CO.,
Transportation Bldg.,
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TOM McGUIRE
First Nat'l Bank Bldg.,
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THE BIG TOPIC AT FORT WORTH

It is significant of the changing viewpoint of the original oil man—the producer—that he is today taking as keen an interest in the developments in the refining industry as he used to devote exclusively to the search and recovery of crude.

A striking example of this was the remark of a veteran wildcatter in renewing his subscription to The Oil and Gas Journal last week.

"There was a time," he said, "when I paid less attention to refinery runs than I did to trotting races—I thought it was entirely out of my line—but the information you folks have been giving about the effect of these new-fangled processes on crude prices opened my eyes. The refining end is coming near to being the big end of the oil business when it can use its fuel oil to compete with our crude as raw material for gasoline. You never said a truer word than when you warned two years ago that all branches of the business were in the one boat and ought to pull together."

The force of this comment was emphasized at the meeting of the Western Petroleum Refiners Association at Fort Worth.

What was the big topic at that meeting?

Was it the supply of crude or the cost of the raw material?

On the contrary, it was how they could still further increase the efficiency of their manufacturing processes.

In fact they warned one another of the danger of unnecessary expansion of their runs in the face of the certain increase in their output through improved methods of manufacturing.

The refining industry has become so efficient that it is almost afraid of its own efficiency.

No sooner is one discovery put into practice than an improvement or a new method is announced and the stress of competition absolutely prohibits anyone resting on his oars.

And, most irresistible of all, is the belief that what is being accomplished may be only a beginning.

When cracking was begun no one imagined that the synthetic fuel would one day be proved superior to the original gasoline and least of all that the heavier crudes would produce a more efficient fuel for more efficient motors.

There would have been no need for "gasless" Sundays during the war if we had known as much about refining then as we do now.

Within less than a year after President Coolidge, alarmed by talk of a shortage of oil, had appointed the conservation board, the refining branch had pushed that possibility so far into the future that it seemed of no present concern.

The depression of 1923 was caused by the overproduction of crude.

The depression of 1924 was caused in large measure by the overproduction of gasoline, although it was not recognized as fully as it should have been at the time.

But with that double demonstration that there was no escaping the industry, both producing and refining, began to see what was the matter early in 1925. As a consequence 1925 was the best year the oil business has had since the hectic boom after the war.

Moreover, profiting by that object lesson, the industry is determined to make 1926 a better year than last. That is the meaning of the declarations at the Fort Worth meeting of the western refiners, the most influential assembly of its kind.

It is but right at this point to give credit where it is due and deserved. The refining industry owes a debt to President F. A. Pielsticker for the progress made towards solving its problems during his administration. He saw the situation clearly and bent every effort to impress its meaning upon the industry.

The Western Petroleum Refiners Association is to be congratulated upon having the services of men like Mr. Pielsticker and President P. M. Miskell, who succeeds him. Mr. Miskell brings to his post universally recognized ability and the confidence of his fellow members as well as of the oil industry at large.

The industry needs such aggressively active organizations as the Western Petroleum Refiners Association promoting leadership and cooperation with the enterprise and vigor shown by Managing Director Howard Bennette. The value of American trade association has recently been appraised by a visiting Englishman who attributed much of America's efficiency to the teamwork of our trade associations.

The scope of the work of the Western Petroleum Refiners Association, for example, is well illustrated in the reports of addresses at Fort Worth in the Western Refiners Convention Number of The Oil and Gas Journal.

The speakers covered such varied and practical subjects as sulphur as a factor in corrosion; petroleum specifications and tests, what insulation means to the refinery, reducing refinery evaporation losses, traffic operation, freight rates, storage, oil burners, safety methods and taxes, as well as general discussion of business conditions and prospects.

In addition to these papers read at Fort Worth, The Oil and Gas Journal published a "Who's Who in Mid-Continent Refining," giving refineries, capacity and processes, and in the same issue technical articles bearing on government facilities for fuel tests, tube still and column process as distillation unit, basic improvements in refining processes, scope of centrifuge in making lubricants, the significant switch made by Oklahoma and Kansas refiners in percentage of recovery of gasoline and fuel oil, California's slowness in adopting cracking, use of liquid sulphur dioxide with kerosene, future advances expected in cracking, use of heavy oil and distillate as a remedy for crankcase dilution, the economic importance of cracking, and fractionating equipment efficiency, all written by acknowledged experts in each line.

It is this wealth of information about refining that has made The Oil and Gas Journal as invaluable to the refining industry as it has been to producers who are today as keenly alive to the importance of refining developments as are the refiners themselves.

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Inland Texas' Position in Refining

Quantity of Gasoline Recovered From Crude Has Increased With Less Fuel Oil and Kerosene Made

By Charles E. Bowles
Petroleum Analyst, The Oil and Gas Journal

The refining situation in "inland" Texas (which includes all of the State except the Gulf Coast) has undergone a change almost as radical, and at least as great in proportion, as that which has taken place in the Oklahoma-Kansas area.

In both areas the percentage of gasoline made from "the average barrel" of crude oil has increased very materially while the percentage for both kerosene and fuel oil has decreased.

In the Oklahoma-Kansas area the outstanding fact is that the production line for gasoline swung up over the fuel oil line in 1923—and has remained there ever since. In 1925 the average barrel of crude oil yielded 19.4 gallons of gasoline and 15.0 gallons of fuel oil.

In the inland Texas area, although in 1925 the gasoline line came up close to the fuel oil line, the average barrel of crude is still yielding more fuel oil than gasoline. In 1925 it yielded 20.3 gallons of fuel oil and 15.7 gallons of gasoline.

Set up in tabular form these relative recoveries would be:

	Gasoline Recov. Gals.	Fuel Oil Recov. Gals.
....19.4	15.0
....15.7	20.3

...Kan- ...is

Bearing in mind the inherently better grade of the average barrel of crude run to stills in the Oklahoma-Kansas area, the refineries in the inland Texas area have made a splendid record in the last eight years as the following table shows. Recoveries are in percentages:

Year—	Gaso. Recv.	Fuel O. Recv.	Kero. Recv.	Lub Oil Recv.
1918	18.3	62.8	13.3	.1
1919	22.3	56.9	13.9	.7
1920	26.8	54.5	13.0	.6
1921	30.9	54.6	8.0	.4
1922	32.5	50.4	11.6	.5
1923	32.6	50.6	11.7	.4
1924	34.8	48.5	8.1	1.3
1925	37.6	48.4	6.6	1.4

Better Gasoline Recovery

In eight years the inland Texas area has increased its gasoline recovery from 37.6 per cent. Aside ...er grade of crude run ...an in 1918, the in- ...asoline has been "at ...maller recovery of ...rosene. Fuel oil ...cent to 48.4—ker- ...nt to 6.6—while ... from one-tenth ...r cent.

...hange was going ... area a similar ...klahoma where ...e same eight-year period, increased from 29.4 per cent to 46.2—fuel oil dropped from 45.6 per cent to 35.8—kerosene dropped from 14.9 per cent to 8.7—and lubricating oil dropped from 3.7 to 2.4 per cent.

Tabulating these changes in these two refining areas in this eight-year period we have:

Product—	Oklahoma-Kansas	Inland Texas
Gasoline	29.4 to 46.2	18.3 to 37.3
Fuel Oil	45.6 to 35.8	62.8 to 48.4
Kerosene	14.9 to 8.7	13.3 to 6.6
Lub Oil	3.7 to 2.4	.1 to 1.4
Totals	93.6 to 93.1	94.5 to 93.7

Make Less Fuel Oil

It is thus seen that, from "the average barrel" of crude oil, the total recovery of these four major products was about the same in 1925 as in 1918—and ranged around 93 to 94 per cent.

The significant thing is that, from the average barrel of crude oil—and regardless of inherent differences in crudes—the refineries in these two areas are, year after year, making substantially more gasoline—and substantially less fuel oil and kerosene.

And where this swing of the pendulum will end is more a problem of economics than of the "physical" limitations of refining, cracking and blending. The industry is today very outstanding in a motor fuel cycle, with gasoline, kerosene and fuel oil as direct motor fuels—and with fuel oil as a source from which large additional amounts of gasoline can be made.

The large graph herewith is on exactly the same scale as the large graph in the article, "Oklahoma-Kansas in Fine Position", in the March 4 issue of The Oil and Gas Journal (page 82.) And it is most interesting to compare the lines showing crude run to stills, the products made therefrom and the stocks of gasoline and fuel oil, month by month, in these two adjacent refining areas, over this eight-year period. The relative standing of these two areas for the years 1918 and 1925 were as follows:

Item and year—	Oklahoma-Kansas Bbls.	Inland Texas Bbls.
Crude run—		
1918	60,800,000	17,800,000
1925	97,600,000	35,900,000
Gasoline—	Gallons	Gallons
1918	865,000,000	136,000,000
1925	2,015,000,000	564,000,000
Fuel oil—		
1918	1,344,000,000	470,000,000
1925	1,599,000,000	731,000,000
Kerosene—		
1918	415,000,000	99,000,000
1925	381,000,000	99,000,000
Lubricating oil—		
1918	109,000,000	840,000
1925	105,000,000	21,000,000
Gasoline Stock—		
Dec. 31, 1918	44,000,000	8,000,000
Dec. 31, 1925	118,000,000	25,000,000
Fuel Oil Stock—		
Dec. 31, 1918	109,000,000	39,000,000
Dec. 31, 1925	164,000,000	34,000,000

Runs and Yields

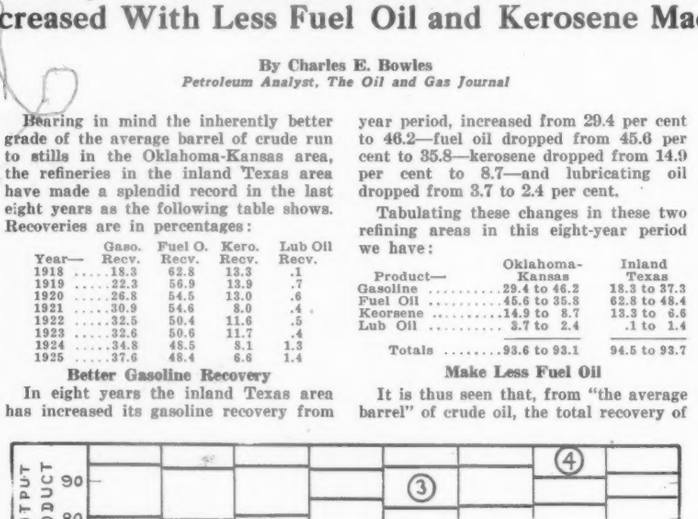
In 1925 the crude run to stills in the inland Texas area was almost exactly double the refinery runs of 1918—and from the 1925 runs four times as much gasoline was made as in 1918.

In Oklahoma, in this 8-year period, the crude run to stills increased about 60 per cent, and from it 2.3 times as much gasoline was made.

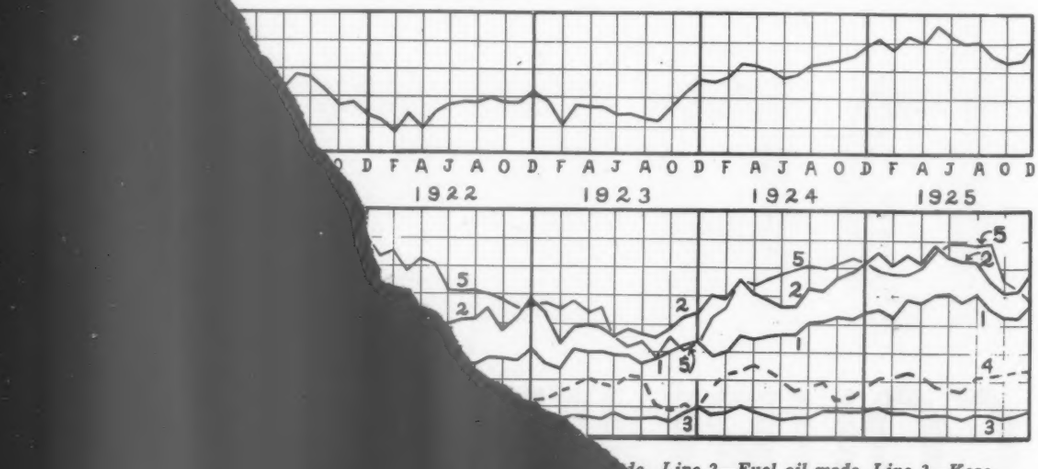
In gallons, there was almost exactly the same increase in the output of fuel oil in the inland Texas area as in Oklahoma-Kansas. And while the gallonage output of kerosene was actually less in the Oklahoma-Kansas area in 1925 than in 1918, the output in the inland Texas area was the same in 1925 as in 1918—in fact, during this eight-year period (except for 1920, when the refinery runs showed a large increase) the gallonage output of kerosene was about the same, year after year.

Referring to the accompanying graph

(Continued on Page 131)



Texas Refining Area. Percentages of Gasoline, Kerosene and ...recovered, based on crude oil run to stills. Space 1—Gasoline. ...Fuel Oil. Space 3—Kerosene. Space 4—All other products, ...ubricating Oil. Data from United States Bureau of Mines.



...e. Line 2—Fuel oil made. Line 3—Kero- ...l line omitted as amount made was

Late News From the Fields

OKLAHOMA

For the week ending March 8, the Stroud Pool produced 2,182 bbls. from 71 wells. This is a decrease of 92 bbls. The Deep Rock Pool in Payne County produced 2,412 bbls. from 19 wells, a decrease of 21 bbls. The new Ingalls Pool opened by the Olean Petroleum Co. had an average production of 6,440 bb'ls. from 4 wells, an increase of 1,412 bbls.

The list of production in the Ingalls Pools is: Olean Petroleum Co.'s No. 1 Pleasant, NW cor. NW, Section 24-19-4, 1,585 bbls.; No. 1 Farren, NE cor. NE, Section 23-19-4, 1,340 bbls.; No. 1 Stevenson, SE cor. SE, Section 14-19-4, 1,470 bbls., and Roxana Petroleum Corp.'s No. 1 Stover, SW cor. SW, Section 13-19-4, 2,045 bbls.

At Davenport, the Magnolia Petroleum Co.'s No. 1 School Land, NE cor. NW, Section 16-14-5, had a hole full of water in a formation which may be the Hunton lime at 4,446 feet. The pipe will be underreamed and the well drilled deeper.

The Gypsy Oil Co.'s No. 10 Caves, SE cor. NE NW, Section 11-14-5, had sand 3,347-70 feet and made 615 bbls. after a shot of 45 quarts. Gypsy's No. 9 Caves, SW cor. NE NW, Section 11-14-5, had sand 3,337-84 feet and made 840 bbls. naturally.

Southwestern Petroleum Co.'s No. 2 Robertson, SW cor. NW NE, Section 11-14-5, had sand 3,360-88 feet and was shot with 50 quarts and made 450 bbls.

On the east side of the pool, the Sinclair Oil & Gas Co.'s No. 1 Powers, NW cor. SW, Section 1-14-5, had sand 3,404-37 feet with a good showing of oil and gas. The well is shut down for orders.

In the Blackwell district, the Blackwell Oil & Gas Co.'s No. 4 Geiger, NE cor. NW NE, Section 9-27-1w, found 1,500,000 feet of gas and 150 bbls. of oil. The sand record on this well is not available.

The Arkansas Fuel Co.'s No. 1 Kelly, SW cor. SE, Section 4-27-1w, which was originally completed as a gas well, and began to spray oil was shot with 15 quarts in sand 3,434-44 feet and made 300 bbls. the first day after the shot.

KANSAS

The Kingman County well of the Carter Oil Co. and Port D. Fleeger is reported to have produced 190 bbls. of fluid, 50 per cent water and 12 per cent b.s. for the 24 hours ending Tuesday of this week.

In Rice County, the United Refining Co.'s No. 1 Jacobson, NE cor. SW, Section 2-21-6w, has been drilled 14 feet deeper to a total depth of 3,402 feet and made one flow and then swabbed 60 bbls. It is now drilling deeper.

TEXAS PANHANDLE

AMARILLO, Tex., Mar. 9,—No. 1 A. J. Whittenburg of the Phillips Petroleum Co. and the Gibson Oil Corp. is showing for an unusually good producer. It found top of the pay at 2,903 feet and has been drilled to a total depth of 2,940 feet. Preparations being made to shoot at the pay depth. The well is reported swabbing about 150 bbls. of 41 gravity oil daily.

The Travelers Oil Co.'s No. 1 Kingsland, also in Hutchinson County, is producing from a total depth of 2,930 feet. While the hole is being cleaned out for the shot the well is spraying oil at the rate of about 100 bbls. daily.

The Summit Oil Co.'s No. 1 Kingsland, another Hutchinson County operation, has reached the pay level at 2,935 feet and is making 8,000,000 feet of gas and an estimated 15 bbls. of oil. In No. 1 Kingsland, of the Prairie Oil & Gas Co. and the Texas Pacific Coal & Oil Co., according to late reports top of the pay was found at 2,945 feet and it has been drilled to 2,969 feet, making between 15 and 20 bbls. daily, and now being connected with the pipe lines.

In this district the Phillips Petroleum Co.'s No. 2 Smith reached pay at 2,930 feet and has been drilled to 2,940 feet. It is now swabbing 100 bbls. daily. It will probably be given a shot. Phillips Petroleum Co. and the Drysdale Oil Co.'s joint No. 1 Weatherly is showing oil after having encountered the pay formation at 2,968 feet. At present the 8¾-inch casing is being run.

The Hutchinson County Oil Co.'s No. 1 Smith is a small producer after a shot of 70 quarts at 2,950 to 3,000 feet. The well is making about 20 bbls. daily and standing 300 feet in oil. The Westex Oil Co.'s No. 1 J. A. Whittenburg is in the gas sand, topped at 2,850 feet and according to latest reports is making 15,000,000 feet of gas daily.

In Carson County, Cosden and associates' No. 1 Burnett encountered an unusually heavy gas pressure. From 2,100 feet down to 2,500 feet this well passed through four distinct gas sands, which combined to make a daily output of gas amounting to 130,000,000 feet. The Amarillo Oil Co.'s No. 3-B Bivins, also in Carson County, is making 60,000,000 feet of gas daily, having encountered the first gas at 2,250 feet and the last at 3,000 feet.

NORTH CENTRAL TEXAS

FORT WORTH, Tex., Mar. 9.—Two new producers are reported from the Nocona district in northern Montague County, neither completed. In Lesh and others' No. 1 Hinds, in the heart of the Nocona shallow district, sand was topped at 959 feet and at 1 foot in the well swabbed 125 bbls. in 18 hours. The Texhoma Oil & Refining Co.'s No. 8 Howard, on the east side, found pay sand at 1,344 feet and drilled into a total of 22 feet. The well swabbed about 45 bbls. of oil on an 18-hour test.

Two new producers are reported from the shallow sand district of northern Brown County. Gilman and others' No. 3 Chambers has 14 feet of pay sand topped at 1,209 feet and making oil at the rate of 170 bbls. daily. Their No. 8 Chambers topped the sand at 1,203 feet and at 1,221 feet is estimated at 40 bbls. daily.

In the Mitchell County Field, the Atlantic Oil Producing Co.'s No. 3 Womack from 5 feet of sand topped at 2,023 feet, is making 75 bbls. daily.

In Callahan County, the Mook Texas Oil Co.'s No. 7 McDonough, is rated at 120 bbls. in sand at 1,426 to 1,431 feet, and Stone and others No. 2, Block 12, Cross Plains townsite, 100 bbls. daily from sand at 1,454 to 1,463 feet.

In the Electra district of Wichita County, Culbertson & Hunter's No. 1 Waggoner Brothers is estimated good for 25 bbls. in sand at 838 to 851 feet, while preparations are being made to put it on the pump. Mitchell and others' No. 1 Waggoner Brothers, is estimated good for 25 bbls. in sand at 1,522 to 1,528 feet.

The Petroleum Producers Co.'s No. 1 Douglas though not completed is making 110 bbls. daily from 22 feet of sand at a total depth of 1,630 feet. White Brothers' No. 1-B Mitchell is estimated at 25 bbls. in sand at 1,520 feet to 1,524 feet.

In Wilbarger County the Humble Oil & Refining Co.'s No. 1-O Waggoner is swabbing oil at the rate of 600 bbls. daily from the sand at 1,890 to 1,912 feet. Landreth Production Co.'s No. 2-I Waggoner found sand at 2,576 feet and drilled to 2,582 feet and the first 24 hours swabbed 460 bbls. but fell off to 250 bbls. on the second 24-hour test.

The Humble Oil & Refining Co.'s No. 22 Stephens, in the heart of the South Vernon Field, is making 250 bbls. of oil and 50 bbls. of water at 2,304 to 2,382 feet. No. 43 Stephens swabbed 50 bbls. in 12 hours from the pay at 2,336 to 2,401 feet and No. 2-M Waggoner swabbed 60 bbls. in 12 hours from the sand at 1,880 to 1,900 feet.

The Milham Corp.'s No. 1-L Waggoner has the pay at 2,379 to 2,386 feet and swabbed 45 bbls. in eight hours. Staley and others' No. 13 Stephens is estimated at 75 bbls. daily from sand at 2,313 to 2,370 feet.

MEXICO

TAMPICO, Mex., Mar. 8.—Huasteca Petroleum Co.'s No. 72 Cerro Azul, in the south fields, has been completed at a subsea level of 1,186 feet, and is rated good for 15,000 bbls. This depth of only 1,186 feet sub-sea marks this as a shallow well even for this shallow sector of the light oil district. La Corona Petroleum Co., in the Panuco Field, has completed its No. 113 Piedras at 1,675 feet, good for 10,000 bbls.

CALIFORNIA

LOS ANGELES, Calif., Mar. 9.—General Petroleum has opened up 10 wells on the Tonner lease at Fullerton and Union Oil 10 wells on the Stearns lease, offsetting the Tonner lease. The former property when shut in was doing about 1,500 bbls. daily while the latter was doing 2,000 bbls. daily. When returned to production they did 2,000 and 2,500 bbls., respectively. The gravity is about 22 degrees.

KENTUCKY EXTENSION

TOLEDO, Ohio, Mar. 9.—A telegram from Owensboro, Ky., Field states that Bert Thompson's No. 3 Gabbert farm, is an oil well in the Barlow sand, top of sand at 719 feet, and bottom of sand, 730 feet. Sand is coarse and pebbly. Owing to muddy water it at first was believed to be dry. This is the farthest north of any Barton sand well in the Pellville Field. Heretofore all Barlow sand tests have proven dry north of the Hardinsburg road. This well indicates that the Barlow sand pool extends in a north direction, but may be narrow in spots. The well has not yet been given a test.

GULF COAST

HOUSTON, Tex., Mar. 9.—The Sun Oil Co.'s No. 1 Taylor, blowing gas in the Boling Pool, has weakened the pressure on the flowing wells there and they have fallen off. The Texas Co.'s No. 3 Taylor is making 2,000 bbls. and No. 4 Taylor is off to 1,300 bbls. from around 4,600 bbls. The Sun Oil Co.'s No. 1 Taylor is blowing 3,000,000 feet of gas per day and spraying about 250 bbls. of oil.

The Rycade Petroleum Corp. has tubed its well off Nash Dome on the Brazoria-Fort Bend County line and it is now heading 350 bbls. per day.

Roy Anderson is bailing his test, northeast of Shelbyville, Shelby County, at 2,646 feet. The Crusader Oil Co. is preparing to bail a test at 3,165 feet, 12 miles southwest of Center. John Anderson & Co. have made a location for a test in the Caledonia section in Rusk County, near the northwest line of Shelby County.

SOUTHWEST TEXAS

Two new shallow tests offsetting the Medina Oil Co.'s 356-foot well 4 miles south of Hondo in Medina County are due in this week. One is the Medina Oil Co.'s No. 2 Taylor, an offset to the west of No. 1 Taylor, or discovery well, and the other is the Golden West's No. 1 Odem, an offset to the east. Medina Oil Co. had set casing in its test and Golden West was setting casing late last week, each at a little below 300 feet. Al Buchanan spudded in the middle of last week on his No. 1 Odem, an offset on the north to the Golden West. J. M.

(Continued on Page 131)

Texas Panhandle Operations

Ten new wells were started in Hutchinson County of the Texas Panhandle last week, increasing the total number of active operations in that county to 110. One new rig was being built in Carson County, raising the total operations in that county to 15, and 2 new rigs were reported in Wheeler County where one well is drilling and another is shut down. Dallam County furnished a first report this week but the well is listed as such because it has not been carried before although it is shut down at 2,460 feet.

The new wells were as follows: In Hutchinson County, the Canadian Oil Co. was building a rig for No. 3 Kingsland, located 330 feet each way from the NE cor. of Tract 54-A in the SW of Section 4, Block Y, M. & C. Survey, and the same company was also building a rig for its No. 4 Kingsland, 330 feet each way from the SW cor. of the NW SW, same section. The Canyon Oil Co. had a cellar for its No. 3 Whittenburg, 330 feet each way from the SW cor. Section 12, Block Y. The Double 5 Oil Co. staked a location for No. 1 in Section 2 Block Y, 330 feet each way from the NW cor. The Gates Oil Co. had timbers on the ground for its No. 3 Kingsland, 330 feet each way from the SE cor. SW SW of Section 4 Block Y, and staked a location for its No. 4 Kingsland, 330 feet each way from the NW cor. SE SW, same section.

Herring & McIlroy had a rig up for their No. 2 Smith, 330 feet each way from the SW cor. SE SW, Section 5 Block Y. Lenix & Storer dug a cellar for their No. 2 Smith, 900 feet from the north line and 330 feet from the west line of the NW cor. SW of Section 11, Block Y.

The Phillips Petroleum Co. on the Gibson Oil Co. acreage completed a cellar for No. 1, 330 feet from the south and east lines of Section 20, Block Y, in the NE cor. of the Mary Whitley survey. The Phillips Petroleum Co. on the Pulaski acreage was building rig for No. 1, 330 feet each way from the SW cor. SW NE of Section 12 Block Y.

In Carson County, the only "first report" was the Marland Oil Co. of Texas' No. 5 Burnett, 450 feet from the south line and 1,250 feet from the west line, SW cor. SW, Section 107, Block 5, I. & G. N. survey.

In Wheeler County, the Canadian Oil Co. had a rig built for its No. 2 H. J. Phillips, 990 feet from the south line and 330 feet from the east line of Section 41, Block B-24, H. G. N. Survey. H. H. Vaughn had a rig on the ground for his No. 1 Ogorman, in the C SW SE NE, Section 83, Block 17, same survey.

The only completion of the week was in Wheeler County where the Midwest Exploration Co., abandoned its No. 1 Compary in Section 12, Block 27, because of a fishing job.

The Dallam County well now carried on the report in the Dalhart Oil & Gas Co's. No. 1, located 330 feet each way from the SE cor. NE, and is shut down at 2,460 feet.

Following is a drilling report for the week ending March 4:

Carson County

Amarillo Oil & Gas No. 3-B Bivins, Section 15 Block 22, 2,905 feet, straight reaming; American Refining No. 3-A (6) Burnett, Section 115 Block 5 2,089 feet, shut down, standardizing; Anatex Development Co.'s No. 1 E. S. Polling, Section 22, Block Y-2, tools; Barnes and others' No. 1 Burnett, Section 65, 1,150 feet, shut down; Cosden Oil Co.'s No. 1 Burnett, Section 35, Block 4, 2,595 feet, 50,000,000 gas; Crosbie and others No. 3 Burnett, Section 114, Block 5, rig; Culbertson Brothers' No. 1 Burnett, Section 20, Block 5, 2,750 feet, 33,000,000 gas; Gates Oil Co.'s No. 2 Burnett, Section 107, Block 5, 2,948 feet, 5-inch won't go; Greenwood and others' No. 1 Burnett, Section 76, Block 4, 2,680 feet, shut down; Gulf Production Co.'s No. 10 Burnett, Section 106, Block 5, 2,275 feet, parted pipe, fishing 10-inch; Gulf Production Co.'s No. 11 Burnett, Section 106, Block 5, building rig; Magnolia Petroleum Co.'s No. 2 Burnett, Section 115,

(Continued on Page 133)

North Central Texas

By George R. Kelly

Independent Oil & Gas Co.'s Crane County well waiting for pipe line, but tests indicate it can be drilled deeper without fear of water. Carl Cromwell's Crockett County well pumped 300 bbls., best in county. Big Lake Co.'s No. 37-A flows 100 bbls. an hour. North Brown output grows.

FORT WORTH, Tex., Mar. 8. — No further efforts to complete the No. 1 Taylor of the Independent Oil & Gas Co. and Turman and Maxwell in southeastern Crane County will be made at present. There is less than 2,000 bbls. of storage on the ground and no pipe line connections are available. Nothing will be done until a 4-inch line is laid from the well to a point on the Orient Railroad about 7 or 8 miles distant. To increase the output of the well in any way would serve only to aggravate the problem of providing storage and pipe lines.

At present the well is making an average of about one flow every 24 hours, the average flow being about 125 to 130 bbls. each. This is through a 10-inch hole, but after provision is made for caring for the oil it is likely the well will be drilled a little deeper into the sand, which has not been entered more than 2 feet at the outside. At least a string of casing will be set, after which it is considered likely the well will flow steadily.

It is apparent now that the well can be drilled deeper into the sand without fear of damaging the well as several tests have been made, none of which show there is the slightest trace of water. Practically all the larger companies have acreage in the vicinity of the Taylor well, among them being the Humble Oil & Refining Co., The Texas Co., Gulf Production Co., the Dixie Oil Co., the Roxana Petroleum Corp., Sun Oil Co., the Pure Oil Co. and the Amerada Corp.

Good Well in Crockett

Carl Cromwell's No. 1 Powell in Crockett County is showing up for by far the best producer ever drilled in that county. At present it is reported shut down for storage. The last 24-hour test that was made, the well pumped a little more than 300 bbls. The pay lime was encountered at 2,651 feet and it has been drilled to a total depth of 2,669 feet.

The Humble Oil & Refining Co.'s No. 1 Sorg, also in Crockett County, is showing some oil, but is performing in a very similar manner to some other wells drilled in the Powell territory of Crockett County. Latest reports are that the Sorg is standing 1,600 feet in oil, but that on being bailed it showed some sulphur water. The pay was found at 2,651 feet and it has been drilled to a total depth of 2,670 feet.

In the Texas Panhandle the Empire Gas & Fuel Co. has a showing of oil in its No. 1 Heitholt, a wildcat operation in Gray County. The pay lime was found at 3,164 feet and at 5 feet in the well began producing some free oil. The well was swabbed for four hours, producing about 40 bbls. of oil. The next day the hole was bailed down in the same length of time, producing only about 30 bbls. of oil. It is announced the well will be drilled deeper.

The Waite Phillips Co. has completed a big shallow gas well in the Nocona district of Montague County, No. 1 Cunningham, which is making 12,000,000 feet of gas daily from 5 feet of gas sand topped at 705 feet. The well will be completed as a gasser at this depth and the gas used as fuel for further drilling. A rotary will be rigged up for drilling the next well. No. 1 was drilled with a machine and was not able to penetrate the gas sand to reach the oil pay.

Big Lake's Best

The Big Lake Oil Co. has an unusually large producer in its No. 37-A University well in Reagan County. The sand was topped at 2,428 feet and at 2 feet in it is flowing oil at the rate of 100 bbls. an hour. This is by far the largest of the (A) wells, wells being drilled to the upper sand, that the Big Lake Co. has drilled in the Big Lake Field. It is also one of the largest producers completed in the Reagan County district in several months.

In northern Young County Bridwell & Mayfield have what appears to be a very nice shallow well in No. 3 Street. Sand was encountered at 1,278 feet and penetrated 6 feet. The well is estimated to be making 15 bbls. as it stands. The Batex Oil Co.'s No. 1 Portwood, also in northern Young County, has encountered the second Harmel sand at 1,340 to 1,343 feet and is testing.

The Texas Co.'s No. 4 Jeske in Archer County is showing promise of being a big producer. It is swabbing at the rate of 400 bbls. daily from a sand topped at 1,152 feet and drilled to a total depth of 1,165 feet.

Archer County made an unusually good showing of new wells completed, recording a total of 37, the majority, however, being failures. Twenty were dry holes while 17 were oil producers, accounting for 1,070 bbls. of new production. The best completion was Hammond and associates' No. 2 Oldham which has an initial production of 200 bbls. daily from the sand at 1,371 feet. Another good producer is the Camp Oil & Gas Co.'s No. 1 Rachuig, producing at the rate of 125 bbls., and the Primrose Petroleum Co.'s No. 5 Wolf, also making 100 bbls.

North Brown's Record

The performance of operators in the North Brown County Field was rather spectacular. The county recorded nine new completions, all but one producers, the eight new oil wells accounting for a total of 1,370 bbls. of new production. There were no dry holes completed. One completion was a small gasser.

The largest completion was Cosden and associates' No. 9 Westerman, credited with an initial production of 860 bbls. daily. Another good well is Conway Brothers' No. 4 Chambers, making 225 bbls. The McLester Oil Co.'s No. 2 Wooldridge is also a new completion making 100 bbls. daily and its No. 1 Wooldridge, though not completed, is estimated making between 75 and 100 bbls. daily. Mulloy and others' No. 6 Prather is rated as a 130-bbl. well.

Carter and others' No. 1 Dunn, reported last week as a new completion, has now been drilled 2 feet deeper in the sand to a total depth of 1,088 feet and the flow has increased to around 165 bbls. daily. The same operators' No. 2 Dunn is also a good new well not yet completed. It is flowing oil at the rate of about 310 bbls. from sand topped at 1,104 feet and drilled into only 1 foot.

Another good producer in this area which has not been listed as a completion is McCarter and others' No. 1 Allen. This well got the pay sand at 1,092 feet and at 3 feet in it is flowing at the rate of 215 bbls. and making an estimated 3,000,000 feet of gas. Humble Oil & Refining Co.'s No. 1 Hodnett, also in northern Brown, is estimated good for about 50 bbls. daily on the swab. It has 12 feet of sand at a total depth of 1,170 feet.

There were a total of 111 new completions in this district during the week compared with a total the previous week of 80. Of this week's completions 63 were oil wells, 43 were failures and five were gas wells. New production amounted to 7,660 bbls. New production for the previous week amounted to only 3,780 bbls. Of the total completions this week 37 were in Archer County, 20 in Wichita County, 13 in Wilbarger County and 9 in Brown County.

Production shows a slight gain over the average daily output for the week previous. This week's average daily output is 160,520 bbls. compared with totals the previous week of 159,750 bbls., leaving a gain of 770 bbls.

The following table gives the completions by counties:

County—	Comp.	Prod.	Dry	Gas	New Prod.
Wichita	20	12	8	0	510
Wilbarger	13	10	3	0	1,655
Archer	37	17	20	0	1,070
Young	6	2	4	0	70
*Stephens	5	2	0	3	125
*Eastland	4	1	2	1	85
*Brown	9	8	0	1	1,370
Reagan	2	2	0	0	600
Hutchinson	3	3	0	0	1,140
Carson	1	1	0	0	250
Clay	1	1	0	0	20
Montague	4	3	1	0	245
Shackelford	5	1	4	0	720
Coleman	1	0	1	0	....
Total this wk	111	63	43	5	7,860
Total last wk	80	42	36	2	3,780
Difference	31	21	7	3	4080

*Stephens County had three gas wells making a total of 9,000,000 feet daily; Eastland County had one gasser making 4,500,000 feet, and Brown County had one making 750,000 feet daily.

PRODUCTION REPORT
For Week Ending March 4, 1926

Burkburnett	
Gulf Production Co.	460
Humble Oil & Refg. Co.	345
Magnolia Petroleum Co.	2,610
Panhandle Refg. Co.	230
Prairie Oil & Gas Co.	15
Sinclair Oil & Gas Co.	50
Sun Oil Co.	60
The Texas Co.	385
Texhoma Oil & Refg. Co.	475
Miscellaneous	7,615
Total	12,245
Electra	
Empire Gas & Fuel Co.	935

Rocky Mountain Area

By F. B. Taylor

CASPER, Wyo., Mar. 6.—The Continental Oil Co. and the Santa Fe Oil Co. drilled in a producer good for 250 bbls. on the Table Mesa Dome in northern New Mexico. This is the No. 5 well located on Section 3-27-17, and the crude is similar to the Rattlesnake and Hogback Fields near by.

The Continental well found the pay at 1,340 feet and started to produce at once. This oil is a very high gravity, about 65 or 70 degrees and has to be handled with great care on account of fire hazard. However, its light nature permits it to be pipelined without difficulty and the Continental is preparing to lay a line of 4-inch pipe about 50 miles south to deliver the oil to the Santa Fe Railroad at Gallup. This gives the crude an outlet east or west over a transcontinental line. At present this oil is going through the Midwest line to Farmington where the Continental has a small skimming plant to cut the oil before it is shipped in tank cars. Sometimes this light oil is mixed with still bottoms shipped in from some refinery in order to hold the volatile gasoline and naphthas.

The general opinion here is that New Mexico is to have a large wildcatting campaign the coming season. The Artesia Field in the south end of the state and the San Juan Basin fields in the north end apparently prove that the rest of the country is worth examination and the comparatively shallow depths make the proposition attractive to the wildcatter. It is held by many oil men that the northern fields are liable to be short lived on account of the high gravity of the crude found, but the high quality of the oil is such that even if these pools fail after a few years, the operators will realize a good profit.

Big Lakota Well

On Section 2-39-78, the Midwest Refining Co. brought in another big well in the Lakota sand, on leases owned by the Salt Creek Producers Association. This well is estimated good for 5,000 bbls. and the location is considered to lie at the south end of the Lakota Pool. Like the other Lakota wells, this producer will be shut in and not produced until the upper sands will no longer support the market requirements.

The Kinney Coastal Oil Co. is at 1,270 feet in its wildcat north of Riverton, in Fremont County, on Dry Creek. This company drilled a duster on this structure last summer, but another well was started as the dry hole was not considered a good test. The company has moved in a rotary drilling outfit to put down the hole the rest of the depth and will use the rotary to go through the shale that caved and gave so much trouble on the first well. After reaching the sands, the rotary will be changed to the standard equipment for drilling through the sands.

The Deertrail wildcat, being drilled in eastern Colorado by a syndicate of Denver and eastern operators, has reached a depth of 835 feet and the sand where oil is expected is thought to be within the next 50 feet. This well is being drilled on the strength of an old showing of oil found in that district back when the railroads were first being built into the West. One location for a water well was made near Deertrail in east central Colorado and after the well reached a depth of about 800 feet, a flow of oil was found. The well was abandoned as oil had no market value in those days in the West.

W. O. Innis of Oil City, Pa., happened to be acquainted with some of the workers on this well and through them he learned of the oil. Mr. Innis preserved the record and recently a syndicate was formed to put down a test.

Deep Hole Dry

The Ohio Oil Co. brought in a dry hole in the deep well drilled by the firm on Section 34-21-26 in Tracy County, New Mexico. This well was drilled to 5,805 feet and is probably the deepest well ever drilled in that state. The Ohio also found a 50-bbl. producer on Section 28-18-28 in the Artesia Field and a dry hole on Section 16-18-28, which was drilled to 3,426 feet.

The Texas Production Co. has pulled out in the wildcat drilled at Arminto, Natrona County, Wyoming, Section 20-37-86. This well was taken over from the Wyland Syndicate after that firm had drilled through the Wall Creek sands and found no commercial production. The Texas Production Co. drilled the hole to 3,534 feet.

(Continued on Page 121)

Gulf Production Co.	980	
Humble Oil & Refg. Co.	90	
Magnolia Petroleum Co.	3,265	
Panhandle Refg. Co.	40	
Phillips Petroleum Co.	15	
Prairie Oil & Gas Co.	120	
The Texas Co.	3,480	
Texhoma Oil & Refg. Co.	1,525	
Miscellaneous	6,195	
Total		16,645
Iowa Park		
Gulf Production Co.	130	
Humble Oil & Refg. Co.	200	
Magnolia Petroleum Co.	525	
Panhandle Refg. Co.	30	
The Texas Co.	260	
Texhoma Oil & Refg. Co.	30	
Miscellaneous	3,460	
Total		4,635
Wilbarger County		
Gulf Production Co.	40	
Humble Oil & Refg. Co.	4,325	
Landreth Production Co.	3,905	
Prairie Oil & Gas Co.	55	
The Texas Co.	80	
Miscellaneous	5,525	
Total		13,930
Archer County		
Empire Gas & Fuel Co.	910	
Gulf Production Co.	2,285	
Humble Oil & Refg. Co.	545	
Independent Oil & Gas Co.	25	
Magnolia Petroleum Co.	1,560	
Panhandle Refg. Co.	100	
Phillips Petroleum Co.	855	
Waite Phillips	1,430	
Prairie Oil & Gas Co.	2,485	
Sun Oil Co.	225	
The Texas Co.	3,185	
Texhoma Oil & Refg. Co.	3,090	
Miscellaneous	16,775	
Total		33,470
Stephens County		
Empire Gas & Fuel Co.	30	
Gulf Production Co.	1,410	
Humble Oil & Refg. Co.	680	
Magnolia Petroleum Co.	410	
Mid-Kansas Oil & Gas Co.	1,385	
Phillips Petroleum Co.	30	
Prairie Oil & Gas Co.	925	
Sinclair Oil & Gas Co.	65	
Sun Oil Co.	140	
The Texas Co.	1,065	
T. P. Coal & Oil Co.	1,205	
Miscellaneous	5,180	
Total		12,525
Ranger		
Gulf Production Co.	250	
Humble Oil & Refg. Co.	35	
Magnolia Petroleum Co.	950	
Mid-Kansas Oil & Gas Co.	150	
Panhandle Refg. Co.	120	
Prairie Oil & Gas Co.	595	
Sinclair Oil & Gas Co.	315	
The Texas Co.	150	
T. P. Coal & Oil Co.	785	
Miscellaneous	2,050	
Total		5,390
Moran		
Empire Gas & Fuel Co.	25	
Humble Oil & Refg. Co.	10	
Magnolia Petroleum Co.	65	
Phillips Petroleum Co.	680	
Prairie Oil & Gas Co.	10	
The Texas Co.	250	
Texhoma Oil & Refg. Co.	85	
Miscellaneous	1,950	
Total		3,075
Young County		
Gulf Production Co.	200	
Humble Oil & Refg. Co.	390	
Magnolia Petroleum Co.	225	
Panhandle Refg. Co.	140	
Prairie Oil & Gas Co.	10	
Sinclair Oil & Gas Co.	355	
Sun Oil Co.	45	
The Texas Co.	545	
Texhoma Oil & Refg. Co.	375	
Miscellaneous	4,920	
Total		7,295
Eastland-Comanche		
Empire Gas & Fuel Co.	10	
Humble Oil & Refg. Co.	150	
Magnolia Petroleum Co.	670	
Mid-Kansas Oil & Gas Co.	175	
Phillips Petroleum Co.	40	
Prairie Oil & Gas Co.	130	
Sinclair Oil & Gas Co.	25	
The Texas Co.	140	
T. P. Coal & Oil Co.	105	
Miscellaneous	1,320	
Total		2,765
Panhandle		
Hutchinson County	4,310	
Carson County	1,965	
Wheeler County	140	
Gray County	145	
Potter County	40	
Total		6,600
Miscellaneous Pools		
Clay County	400	
Montague County	1,360	
Jack County	105	
Throckmorton County	210	
Baylor County	295	
Palo Pinto County	425	
Brown County	2,560	
Coleman County	260	
Callahan County	4,360	
Mitchell County	3,335	
Reagan County	28,640	
Scurry County	45	
Crockett County	40	
Total		42,035
Total this week		160,520
Total last week		159,750
Gain		770

Wichita County Completions

Willis and others' No. 1 Willis, dry at 1,751 feet; Vannest Oil Co.'s No. 19 M. K. & T., dry at 1,251 feet; Panhandle Refining Co.'s No. 4 Jackson, dry at 1,817 feet; Allen and others' No. 1 Ancell, dry at 1,609 feet; Apple and others' No. 17-A Jennings, 25 bbls. at 1,700 feet; Bullington and others' No. 14 Jennings, dry at 1,855 feet; Fisher Jennings Oil Co.'s No. 3 Burnett, dry at 801 feet; Hooser and others' No. 1 Hines, 100 bbls. at 1,395 feet; Magnolia Petroleum Co.'s No. 13 Maer, 50 bbls. at 1,762 feet; No. 14-A, Pratt, 5 bbls. at 976 feet; No. 17-A Ramming, 40 bbls. at 1,296 feet; Patterson and others' No. 2 Douglas, dry at 1,020 feet; Perkins and others' No. 5 Beaver-Electra, 120 bbls. at 1,631 feet; Ridgeway and others' No. 4 Powell, 5 bbls. at 839 feet; Ryan Petroleum Co.'s No. 51 Nance, 5 bbls. at 1,227 feet; No. 52 Nance, 60 bbls. at 1,315 feet; Shappell Oil Co.'s No. 7-A McCarty, 20 bbls. at 1,210 feet; Staley and others' No. 1 Hines, dry at 2,036 feet; Texhoma Oil & Refining Co.'s No. 7-E Burnett, 45 bbls. at 1,632 feet; No. 14 Waggoner, 35 bbls. at 1,770 feet.

Gray and others' No. 1 Waggoner, dry at 2,406 feet; Humble Oil & Refining Co.'s No. 4-I Waggoner, 185 bbls. at 1,890 feet; No. 2 Waggoner, 175 bbls. at 1,880 feet; Landreth Production Co.'s No. 1-Q Waggoner, 225 bbls. at 2,355 feet; No. 1-U Waggoner, 75 bbls. at 2,314 feet; No. 2-CC Waggoner, 170 bbls. at 1,801 feet; No. 4-CC Waggoner, 300 bbls. at 1,906 feet; No. 1-OO Waggoner, 125 bbls. at 2,353 feet; Morton and others' No. 3 Waggoner, dry at 1,887 feet; Petroleum Producers Co.'s No. 7-A Dill, 100 bbls. at 2,320 feet; Roxana Petroleum Corp.'s No. 5-A Waggoner, 175 bbls. at 1,949 feet; Staley and others' No. 12 Stephens, 125 bbls. at 2,353 feet; Wood and others' No. 1 Dennis, dry at 2,612 feet.

Archer County

Abernathy and others' No. 3 Wilson, dry at 1,662 feet; Barkley and others' No. 20 Wilson, 75 bbls. at 1,528 feet; Burns and others' No. 2 McCrory, 20 bbls. at 1,598 feet; Freeman-Hampton Oil Co.'s No. 18-A Ferguson, 60 bbls. at 1,569 feet; No. 19-A Ferguson, 50 bbls. at 1,587 feet; Gray and others' No. 1 Edwards, dry at 1,710 feet; Humble Oil & Refining Co.'s No. 1-F Wilson, dry at 1,750 feet; Lewis and others' No. 1 Wilson-McCrory, dry at 1,470 feet; Magnolia Petroleum Co.'s No. 7 Rutty, 5 bbls. at 911 feet; Pandem Oil Corp.'s No. 7 Hutcherson, 55 bbls. at 1,398 feet; No. 1 Jackson, dry at 1,817 feet; Phillips Petroleum Co.'s No. 92 White, dry at 1,630 feet; Ray-Featherstone Oil Co.'s No. 16 Nichols, 5 bbls. at 1,623 feet; No. 17 Nichols, dry at 1,627 feet; Riner and others' No. 2-C Wilson, dry at 1,646 feet; Texhoma Oil & Refining Co.'s No. 6 Hamilton, 65 bbls. at 1,805 feet; Wichtex Oil Co.'s No. 6 Jackson, dry at 1,557 feet; American Refining Co.'s No. 6 Portwood, 15 bbls. at 1,409 feet; Abercrombie and others' No. 1 Stewart, dry at 1,403 feet; Beasley Drilling Co.'s No. 1 Wolf, 90 bbls. at 1,352 feet; British American Oil Co.'s No. 12 Rogers, dry at 1,278 feet; Camp Oil & Gas Co.'s No. 1 Rachuig, 125 bbls. at 1,172 feet; Consolidated Oil Co.'s No. 2 Kreeger, dry at 1,453 feet; Craig and others' No. 1 Longley, dry at 1,215 feet; Goldsmith and others' No. 1 Hamilton, dry at 1,128 feet; Hunt and others' No. 2 Gross, dry at 1,444 feet; Hammond and others' No. 2 Oldham, 200 bbls. at 1,371 feet; Major Petroleum Co.'s No. 1 Wallace, dry at 1,757 feet; Perkins and others' No. 11 Anderson, 80 bbls. at 1,431 feet; Primrose Petroleum Co.'s No. 5 Wolf, 100 bbls. at 1,348 feet; Ray and others' No. 1 First State Bank, dry at 1,480 feet; Richards and others' No. 1 Gin Lot, dry at 1,501 feet; Roxana Petroleum Corp.'s No. 2 Kreeger, 65 bbls. at 1,430 feet; Shaw and others' No. 5-A Hayter, dry at 1,450 feet; The Texas Co.'s No. 18 Hill, 10 bbls. at 1,401 feet; Wampen Oil Corp.'s No. 3 Kreeger, 50 bbls. at 1,417 feet; White and others' No. 1 Trinity Townsite, dry at 1,501 feet.

Young County

Bridwell and others' No. 1 Farmer, 35 bbls. at 1,066 feet; Camp Oil & Gas Co.'s No. 1 Campbell, dry at 973 feet; Carter and others' No. 1 Benson, 35 bbls. at 933 feet; Swastika Oil Syndicate's No. 1 Wilson, dry at 1,013 feet; Tidal Oil Co.'s No. 20 Campbell, dry at 940 feet; White and others' No. 1 Graham, dry at 1,202 feet.

Stephens County

Mid-Kansas Oil & Gas Co.'s No. 1 Lee, 75 bbls. at 3,692 feet; Mid-Tex Oil Co.'s No. 1 Morrison, 2,500,000 feet of gas at 3,167 feet; Brown & Co.'s No. 4 Akin, 500,000 feet of gas at 3,220 feet; Magnolia Petroleum Co.'s No. 2 Akin, 6,000,000 feet of gas at 3,099 feet; Price and others' No. 6 Bruce, 50 bbls. at 2,105 feet.

Eastland County

Eastland Oil Co.'s No. 1 White, dry at 3,520 feet; Magnolia Petroleum Co.'s No. 9 Hankins, 4,500,000 feet of gas at 2,540 feet; No. 2-B Pettit, 85 bbls. at 1,496 feet; The Texas Co.'s No. 1 Bivins, dry at 1,900 feet.

Brown County

Conway Brothers' No. 4 Chambers, 225 bbls. at 1,323 feet; Cosden and others' No. 9 Westerman, 860 bbls. at 1,301 feet; Gillett and others' No. 6 Prather, 20 bbls. at 1,325 feet; McLester Oil Co.'s No. 2 Wooldridge, 100 bbls. at 1,233 feet; Mount and others' No. 1 Gaines, 10 bbls. at 1,342 feet; Mulloy and others' No. 6 Prather, 130 bbls. at 1,288 feet; Schaffner and others' No. 6 Prather, 20 bbls. at 1,319 feet; Simms Oil Co.'s No. 6 Gaines, 5 bbls. at 1,275 feet; Inland Oil Co.'s No. 1 Parker, 750,000 feet of gas at 1,583 feet.

Reagan County

Big Lake Oil Co.'s No. 52 University, 400 bbls. at 2,962 feet; No. 53 University, 200 bbls. at 3,057 feet.

Hutchinson County

Canadian River Oil Co.'s No. 1 Kingsland, 1,000 bbls. at 2,938 feet; New Domain Oil Co.'s No. 1 Borton, 50 bbls. at 3,095 feet; Travelers Oil Co.'s No. 1 Kingsland, 90 bbls.

American Refining Co.'s No. 5-A Burnett, 250 bbls. at 3,038 feet.

(Continued on Page 135)

SITUATION BETTER IN JANUARY; GASOLINE STOCKS MENACE PRICES

By Charles E. Bowles
Petroleum Analyst, The Oil and Gas Journal

That the situation in the industry was very materially better during January than during the same month a year ago is shown by an analysis of the Bureau of Mines reports.

Crude at refineries increased only 424,000 bbls. in January, 1926, against 1,182,000 bbls. in January, 1925.

Refined products at refineries increased only 601,000 bbls. in January last against 3,818,000 bbls. in January a year ago.

Pipe line and tank farm stocks decreased 3,591,000 bbls. in January, 1926, compared to withdrawals of only 1,134,000 bbls. in January, 1925.

At the same time refinery output was 110,000,000 gallons more than in January, 1925, an addition to stocks of 101,000,000 gallons, or 296,000,000 gallons more than January 31, 1925, leaving total stocks of gasoline standing at 1,749,000,000 gallons January 31, just slightly less than the biggest point that gasoline stocks have ever reached.

The high stocks of the past two years have been as follows:

April, 1924	1,727,000,000 gallons
May, 1924	1,756,000,000 gallons
March, 1925	1,747,000,000 gallons
April, 1925	1,720,000,000 gallons
May, 1925	1,716,000,000 gallons
January, 1926	1,749,000,000 gallons

It is thus seen that we hit over 1,700,000,000 gallons of stored gasoline in 1924 in April, in 1925 in March and in 1926 in January.

In the first three months of 1925 gasoline stocks were increased 452,000,000 gallons before the first reduction in April, of gasoline stocks in the United States as a whole.

During January, 1926, 101,000,000 gallons were added to stocks. If during the first three months of 1926 a total of only 250,000,000 gallons, compared with 452,000,000 for the first three months of 1925, are added to storage the stocks of gasoline on April 1 will run around 1,900,000,000 gallons an amount that would seriously endanger the price structure for the succeeding months of 1926.

That gasoline stocks at the end of February, March and April, 1926, will be much above the January 31 figures seems inescapable especially in view of the following tabulation. All amounts are in millions of gallons:

Year and Month	Prod. Plus Imports	Consum'n Plus Exports	Surplus or Shortage
1925—			
January	853	694	159
February	812	647	165
March	877	749	128
April	882	908	*26
May	939	943	*4
June	960	982	*22
July	983	1,068	*85
August	986	1,056	*70
September	914	940	*26
October	953	938	15
November	938	877	61
December	948	889	59
1926—			
January	965	864	101

*Indicates withdrawals from stock.

The price structure is almost wholly in the refiners hands and if it gets shaky before the first reduction in the total storage it will be because as in the early months of 1925 too much gasoline has been added to already large stocks.

SUPPLY OF AND DEMAND FOR PETROLEUM AND ITS PRODUCTS

Compiled by Charles E. Bowles from monthly reports of the United States Bureau of Mines

Current Supply—	Nov., 1925	Dec., 1925	Jan., 1926	Jan., 1925
Domestic crude oil	61,459,000	60,943,000	59,656,000	59,519,000
Imports—crude and refined	5,807,461	5,130,285	5,937,000	8,425,249
Total current supply	67,266,461	66,073,285	65,593,000	67,944,249
Demand—				
Domestic and export—crude and refined	68,501,681	71,519,814	68,077,876	64,218,769
Total change in crude and refned storage	*1,235,220	*5,446,529	*2,484,876	3,725,480
Source of Change in Storage—				
1—Pipe line and tank stocks	1,428,000	*4,347,000	*3,591,000	*1,134,970
2—Crude oil at refineries	*889,000	13,000	424,000	1,182,474
3—Foreign crude not at refineries	52,000	*172,000	81,000	*141,000
4—Refined products at refneries	*1,826,220	*940,529	601,124	3,818,986
Total chane in storage	*1,235,220	*5,446,529	*2,484,876	3,725,490
On a Daily Average Basis—				
The current supply was	2,242,215	2,131,396	2,115,903	2,191,750
The demand was	2,283,389	2,307,091	2,196,060	2,071,573
Av. daily surplus or shortage	*41,174	*175,695	*80,157	120,177
Total Crude and Refined in Storage—				
(a)—Pipe line and tank farm:				
East of California	268,967,000	264,724,000	260,181,000	277,340,000
In California—light oil	44,426,000	44,323,000	44,215,000	42,101,982
(1)In California—heavy oil	81,807,000	81,806,000	82,866,000	56,811,689
(b)—Crude at refineries—east of California	27,144,000	27,157,000	27,581,000	32,366,381
(c)—Foreign crude not at ref'ries	579,000	407,000	488,000	593,000
(1)Total crude stocks	422,923,000	418,417,000	415,331,000	409,113,052
(d)—Refined products at refineries				
gasoline	37,854,286	39,245,905	41,643,405	34,599,940
(2)Fuel oil	27,266,214	24,681,405	23,266,143	18,425,080
All other products	56,117,143	56,369,804	55,988,690	53,132,429
(2)Total refined stocks	121,237,643	120,297,114	120,898,238	106,157,449
Grand total in storage	544,160,643	538,714,114	536,229,238	515,270,501

(1)Includes refined fuel oil in storage in California.
(2)Does not include refined fuel oil in storage in California.
Please note—Decreases are shown by both * and **black face** type. Increases are in light face type.

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Gulf Coast Oil Operations

By P. L. McGreal

The Texas Co. completes line to Boling Dome and is running crude to West Columbia. Fifteen wells drilling and nine rigging, derrick up or locations made west and northwest of discovery well. Gulf Production Co.'s No. 2 Kishi-Lang flowing 1,650 bbls. in Orange Pool.

HOUSTON, Tex., Mar. 8.—The Texas Pipe Line Co. completed its 8-inch line to the new Boling Pool in southeastern Wharton County Wednesday and started running that crude into storage at West Columbia. The line is 22 miles long and was finished under great handicaps, such as rains, bad roads and difficulty in getting material on the ground. J. L. Dowling, vice president and general manager of the company and H. F. Fowle, division superintendent, remained on the job constantly and finished the line on scheduled time.

The line is handling an average of 6,000 bbls. per day from The Texas Co.'s two wells there on the Taylor lease. The Atlantic Oil Producing Co. is sending out an average of 800 bbls. per day in tank cars from one well, with another one sanded on which a crew is working endeavoring to restore it to production.

The Sun Oil Co.'s No. 1 Taylor, some 500 feet northwest of the discovery well, is blowing gas and spraying 100 bbls. at 3,071 feet. The Sinclair Oil & Gas Co.'s No. 1 Taylor is showing oil and gas in a sand at 3,074 feet. It is west of production. The Oxford Oil Co. abandoned No. 1.

A total of 93 cars of crude were shipped from the Piedras Pintas Pool over the Mex-Tex Railroad during February, compared with 126 cars during January.

Tank car shipments of crude from Mirando City over the Mex-Tex line during February total 828 cars compared with 691 cars during January. Of the total for February, 611 cars went westward to Aransas Pass and Houston and 217 cars west to Laredo and San Antonio.

Estimated Daily Average Gross Production

The estimated daily average gross production of the Coastal pools for the week ending March 6 is placed at 102,525 bbls., a decrease of 2,295 bbls. from the previous seven-day period.

The gross for the South Texas pools is 91,345 bbls. and the South Louisiana districts are credited with 11,180 bbls.

The estimate for each district is as follows:

District—	Gross Barrels
Boling	8,800
Batson	1,640
Blue Ridge	875
Big Creek	1,600
Barber Hill	110
Dayton	45
Damon Mound	900
Edgerly, (La.)	1,200
Goose Creek	9,765
Humble	5,200
Hull	19,800
High Island	740
Jennings, (La.)	900
Lockport, (La.)	2,600
Markham	75
Nash	150
Orchard	350
Orange	12,265
Pierce Junction	1,540
Piedras Pintas	1,400
Spindletop	2,725
Saratoga	1,425
Sour Lake	4,625
South Liberty	7,325
Vinton, (La.)	6,400
West Columbia	9,850
Welsh-Anse La Bute (La.)	80
Miscellaneous	140
Total	102,525

Southwest Fields

The gross for the Southwest fields is placed at 39,520 bbls., a decrease of 1,450 bbls. for the week. The estimate for each field is as follows:

Field—	Barrels Gross
Luling	22,100
Laredo	3,410
Somerset	2,220
Calliham	240
Rockdale-Minerva	950
Jim Hogg County	3,160
Lockhart	7,440
Total	39,520
Grand total for week	142,045
Grand total last week	145,790
Net increase	3,745

Wells completed during the week in the Coastal region number 17, of which 6 were dry and 3 salt water holes, leaving only 8 producers. The new production aggregates 2,655 bbls., not including completions in the Edgerly and Vinton pools late last week. These were reported too late to be compiled as part of last week's new production.

List of Completions

In the Batson Pool, S. R. Buchanan's No. 86 Milhome is pumping 20 bbls. at 1,300 feet.

At Goose Creek, the Humble Oil & Refining Co.'s No. 66 Smith will pump at 2,800 feet. The Gulf Production Co.'s No. 12-A Wright is a dry hole at 2,500 feet. Same company's No. 23 State land is bailing at 2,900 feet.

In the Hull Pool, the Gulf Production Co.'s No. 11 Baldwin is a 175-bbl. pumper at 3,050 feet. Its No. 21 Morris-Phillips will make a pumper at 3,950 feet. Yount-Lee Oil Co.'s No. 9 Stengler bailed salt water at 3,040 feet.

In the Jennings (La.) Pool, the Jennings Petroleum Co.'s No. 1 S. F. S. is making 60 bbls. on the jack at 1,660 feet.

In the Orange Pool, the Gulf Production Co.'s No. 2-B Kishi-Lang is flowing 1,650 bbls. at 4,650 feet. The Sun Oil Co. quit No. 1 Carem at 4,950 feet. Last week that company's No. 1 Johnson went into the discard at 5,100 feet. The Gulf Coast Oil Corp. worked over No. 1 Leon and abandoned it at 2,750 feet.

The Sun Oil Co.'s No. 6-C Cade at High Island is flowing 350 bbls. at 2,375 feet. No. 7 Cade is rigging. The Gulf Production Co.'s No. 1-A Smith is drilling at 3,143 feet and No. 4 Smith is around 3,265 feet.

At Spindletop, the Gulf Production Co.'s No. 220 Gladys is a 125-bbl. well at 825 feet. The Yount-Lee Oil Co.'s No. 2 Gladys was abandoned at 2,150 feet.

The McNamara Oil Co.'s No. 14 Bashara in the Sour Lake Pool bailed salt water at 1,565 feet.

Outside of the pools, Rassmussen and others' No. 2 Dodds, west of Iola, Grimes County, is a water well at 2,552 feet. It was drilled to 3,960 feet and plugged back for a test at 2,552 feet. It showed some oil. A location has been made for No. 3 Dodds.

Quiet Week

A list of wells completed shows it to have been a very quiet week in the Coastal area. Bad weather interfered somewhat with operations.

The Boling Pool is the center of interest, with operators and leasers watching which way the trend will lead. Just now all the work is west and northwest of the discovery well, which came in December 14 at 3,338 feet, shut in to 4,000 bbls. It was estimated to have been good for as high as 8,000 or 10,000 bbls. if permitted to flow open. It is owned by The Texas Co. and is known as No. 3 Taylor on the northwest flank of the dome. The Taylor lease comprises 400 acres and it all looks good now. The Texas Co.'s No. 4 Taylor, 200 feet northwest from No. 3, is flowing 4,600 bbls. It was finished last week. No. 5 Taylor is drilling around 2,675 feet and No. 6 Taylor is around 3,100 feet. No. 7 is at 1,985 feet with a location made for No. 8.

The Atlantic Oil Producing Co.'s No. 2 Taylor, a blowout that bridged, is fishing for the drill stem. No. 3 Taylor is drilling around 3,000 feet. A derrick is standing for No. 4 Taylor. The Sun Oil Co.'s No. 1 Taylor has been mentioned as blowing gas and spraying oil. No. 2 Taylor is at 3,075 feet with Nos. 3 and 4 rigging and a derrick up for No. 5. The Sinclair Oil & Gas Co. is among the active operators there. Its No. 2 Taylor is at 2,235 feet. No. 3 is around 765 feet and No. 4 at 987 feet. The Humble Oil & Refining Co. has started to get busy on its Hawes lease, west of production. No. 1 Hawes is at 2,545 feet. No. 2 is rigging to commence drilling. A derrick is standing for No. 3 with locations made for Nos. 4 and 5. The Vacuum Oil Co.'s No. 1 Hooper is around 700 feet. The Gulf Production Co.'s No. 1 Chase, southwest of production, is drilling below 2,780 feet. Murchison and Fain's No. 2 Floyd is at 980 feet. The Texas Co.'s No. 1-B Floyd is rigging.

This is a total of 15 wells drilling with 9 either rigging, derricks or locations made.

The Southern Pacific Railroad has inaugurated a special passenger train service between Houston and Boling, leaving Houston at 7:15 a. m., and returning from Boling late in the evening. Parts of the highway between the two points is practically closed to automobile traffic. In this connection it might be mentioned that the state highways of south Texas are deplorable. Millions of dollars have been expended with nothing to show for it. During the winter, or rainy season, in the Coastal belt it is impossible to get 40 miles from Houston in an automobile. The Liberty and Hull Pools are practically isolated and it is almost impossible to reach West Columbia or Damon Mound over the highways. This condition of affairs adds to the cost of operating in the Coastal country, which is already higher than in any other division in the country.

Other Pools—Hardin County

The Vacuum Oil Co.'s No. 3 Teel on the southwest side of the Saratoga Pool, is drilling around 1,075 feet. The Rio Bravo Oil Co.'s No. 3 Fountain on the north side, is at 2,610 feet. The San Bernard Oil Co.'s No. 19 Hooks is drilling around 1,700 feet.

In the Sour Lake Pool, the Humble Oil & Refining Co.'s No. 1-A Myers is at 1,390 feet. The Texas Co.'s No. 263 fee is working over. The Minor Oil Co.'s No. 75 fee is at 810 feet. The Yount-Lee Oil Co.'s No. 3 Gilbert is at 545 feet. The Lake View Oil Co.'s No. 46 Hardin is around 765 feet. The Peveto Oil Co.'s No. 3 Cummings is drilling around 765 feet. Barclay Oil Co.'s No. 1 Bailey is deepening at 1,418 feet.

On the northwest extension of the Batson Pool, the Kirby Pet.-Capital Oil Co.'s No. 4 Hodges is drilling at 3,500 feet. The Navarro Oil Co.'s No. 1 Autry is around 4,274 feet. The Gulf Production Co.'s No. 165 Wing is around 1,765 feet. In the older section, the Paraffine Oil Co.'s No. 65 fee, is at 1,010 feet. The East Batson Oil Co.'s No. 12 State land is at 545 feet. The Sterline Oil Co.'s No. 3 Hooks is drilling below 1,650 feet. The Ada Belle Oil Co.'s No. 108 Bradley is around 635 feet. The Acorn Oil Co.'s No. 60 Paraffine is at 988 feet.

Drilling in the three Hardin County Pools is increasing, notwithstanding these are among the oldest in the South.

Harris County Pools

In the Humble Pool, Brane & Co.'s No. 5 in the old section is a duster. Martin and Drake's No. 1 Williams is drilling, as is F. M. Ling's No. 2 Hirsch and Hamm & Co.'s No. 1 Bailey. A. L. Fondren has started No. 2 Mason and J. D. Clay No. 19 Invincible. Johnson and others' No. 1 Morris is working over on the south side of the pool.

In the Goose Creek Pool, Gulf Production Co.'s No. 12 Galliard fee is drilling at 3,245 feet and No. 11 Chapman-Bryan

(Continued on Page 112)

San Juan Basin Operations

By Anthony McCauley

FARMINGTON, N. Mex., Mar. 6.—Two small and one fair completions were the result of last week's development. The Continental Oil Co.'s No. 14 Rattlesnake is producing 100 bbls. The same company's No. 2 Table Mesa is good for 15 bbls. and its No. 5 Table Mesa for 20 bbls. For a time it looked as though the Congress Oil Co.'s South Bloomfield well at 828 feet would be a good gasser for that district but after three days the gas flow subsided and under a test Friday showed less than 5,000 feet, though at one time it was said to be doing 3,000,000.

The Continental Oil Co. started drilling this week on its No. 6 Table Mesa, 1,200 feet south of its No. 2. It also had reached a depth of 300 feet in No. 15 Rattlesnake, which was spudded in early in the week. A new location, the Azul Oil Co.'s No. 1 Hooper, Section 28-30-9, has been announced.

The Huntington Park Oil Co., operator of the Huntington Park well, has reorganized with California capital interested. It is rumored that the appraisement made by the new entrants placed the present valuation at $250,000.

Reports reach here that the Producers & Refiners Corp., working jointly with the Marland Oil Co., will drill the Defiance structure, 8 miles west of Gallup, N. Mex. The location is said to be 2 miles south of the Santa Fe tracks. Geologists claim that the Dakotas at that point can be reached at a depth of 2,000 feet. Tools are now on the ground.

Rumors are to the effect here that Former Governor Hagerman, acting for the Navajo Indian tribe, will soon announce a sale of lands on the reservation. The tentative date is set for May 17. Four exploratory tracts of 4,800 acres each and smaller tracts running from 200 to 640 acres, all adjacent to the Hogback, will be placed on sale.

A small sale of Indian allotment lands was held last week by the Indian agent at Crown Point. Only four sections were sold.

Oil men returning from Gallup say that a large number of teams and scrapers are at work presumably leveling tank floors for storage tanks to be used at the latter terminal point for the Continental Pipe Line from San Juan Basin.

Representatives of the Ohio, Phillips Petroleum, Union Oil of California and many independent operators are here checking structures in the basin. A number of widely distributed tests in the basin are reaching interesting stages and are being carefully watched by oil men here.

The New Mexico Oil Mens Association will hold their annual meeting at Albuquerque Saturday, March 13.

Osage Sale Offers Many Wildcat Plays

West Side Acreage, Well Scattered, Will Be Put Up Next Week. Burbank Field Approaches 120,000,000 Mark in Production

By James McIntyre

Table giving the production by lease in the Burbank Field, in both Osage and Kay Counties, from the opening of the field in May, 1920, up to February 1, 1926, will be found on Page 132.

The next sale of Osage oil leases to be held in Pawhuska Wednesday and Thursday, March 17 and 18, might have been a frost had it not been for recent developments on one lease in the Burbank Field and the discovery of oil in Section 21-25-6, northeast of the town of Fairfax. The Phillips Petroleum Co.'s southeast quarter of Section 2-27-5, of which so little was expected, that it was knocked down to the buyer at a paltry $6,000, has been turning out wells of such magnitude that the quarter section north of it and that east of it, both of which will be offered at the second day's sale, may bring comparatively big money. Nothing is to be offered very near the Prairie Oil & Gas Co.'s discovery lease in the Fairfax district but seven tracts in the township will be offered, the nearest being 3 miles from the discovery well.

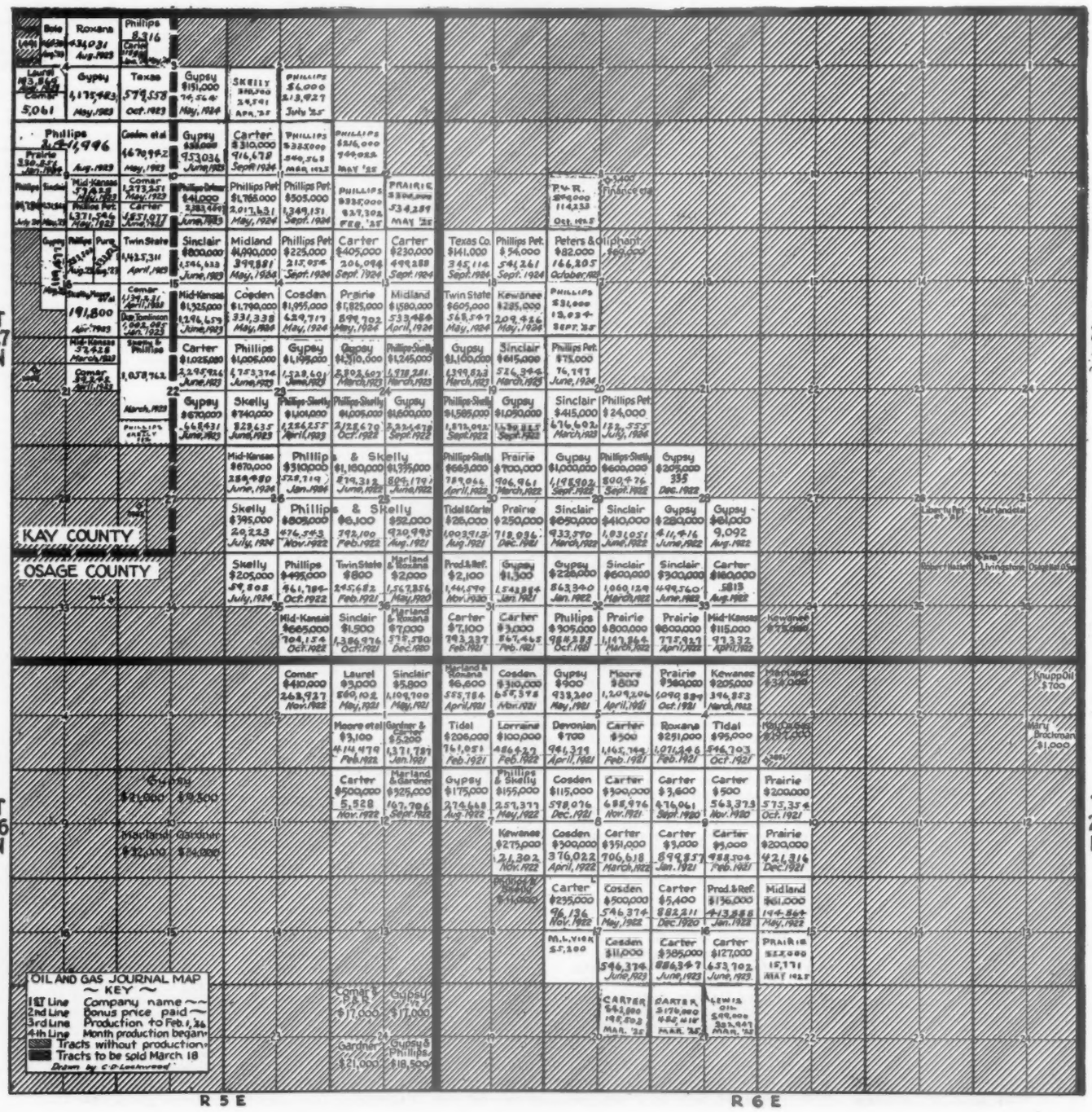
Tracts 501, 502, 503, 504, 507, 508, 511, 512, 513, 514, 564, 579, 580, 581, 582, 583, 584 and 585 all adjoin the Burbank Field. A map accompanying this, prepared by Kirk Nagle of the Nagle Mapping Co., shows all the tracts to be offered west of Range 8. The tracts are so scattered as to give opportunity for widespread exploration of the unknown west side of the big Osage Nation.

The first day's sale will be confined to tracts east of Range 7 and none of the hundreds of leases are expected to bring big money, and many of them will be passed for want of bids.

In all, 114,032.04 acres will be put up for sale of which 50,420.90 acres are east side leases and 63,611.14 acres are west side tracts. Chief interest in the sale will lie in the Burbank and Fairfax tracts which will be auctioned on Thursday.

Record of Burbank

The Burbank Field, not yet six years



old, but which ranks among the largest of American oil fields in total production, being exceeded in Oklahoma only by the Cushing and the Healdton Fields, which are seven years older, has produced from May, 1920, to the end of January, 1926, a total of 116,160,625 bbls., of which 96,480,865 bbls. were produced on the Osage side and 19,679,760 bbls. on the Kay County side.

The field now is made up of 20,480 acres in Osage County and 3,080 acres in Kay County, a total of 23,560 acres. Of this 18,200 acres was or had been productive up to the close of January of this year. The Osage acreage had produced at the rate of 4,711 bbls. to the acre, but the 16,230 acres of producing territory showed an average of 5,945 bbls. per acre. On the Kay County side the 3,080 acres produced an average of 6,390 bbls. per acre but the 1,970 producing acres showed a recovery of very close to 10,000 bbls. per acre, 9,989 bbls. to be more exact. The largest producing quarter section in the Burbank Field is on the Kay County side. It is the southwest quarter of Section 10-27-5 which is credited with 3,124,328 bbls., or an average recovery of 19,527 bbls. to the acre. The north half of this quarter is owned by the Comar Oil Co., credited with a production of 1,273,251 bbls., and the south half by the Carter Oil Co. credited with 1,851,077 bbls. Another very prolific quarter section unequaled on the Osage side of the field is the southeast quarter of Section 9-27-5, which is credited with a production of 3,059,634 bbls., or 19,123 bbls. per acre. The north half of this lease is owned by the Mid Kansas Oil & Gas Co., and the south half by the Phillips Petroleum Co.

This Kay County acreage was neglected for months after the Burbank Field was discovered as it had been absolutely condemned by a number of the leading geologists. The Sapulpa Refining Co. proved it up with a test in the south half of the southwest quarter of Section 15-27-5, now carried as Dye & Tomlinson, and in three years the extension has produced 19,679,760 bbls.

A Study of Contrasts

A study of the map of the Burbank Field and the production table accompanying this article is most interesting in showing the many contrasts in bonus costs and oil recovery. Burbank is a field with a very few rare bargains and a few tremendous losses. The buyers at the sales in 1917, 1918 and 1919 picked up some of the cheapest good acreage ever presented at an auction sale of leases, but at that time they were no more attractive than the scores of wildcat leases which may be bought at the coming sale.

Most of the operators in the Burbank Field will come out of it big money makers in the end, but there are some which can never break even. On the whole Burbank will repay the big bonus prices paid, and the high cost of drilling to sands between 2,800 and 3,000 feet. It takes a lot of oil to repay a $420,000 bonus and $800,000 drilling cost to which is added lifting costs, housing, taxes, etc. The average cost of Burbank leases has thus far been $420,901 per quarter section or an average of $2,631 per acre. This price per acre runs all the way from $3.12 to $12,438, and, alas! the $3.12 acreage was far better paying stuff than that for which $12,438 was paid.

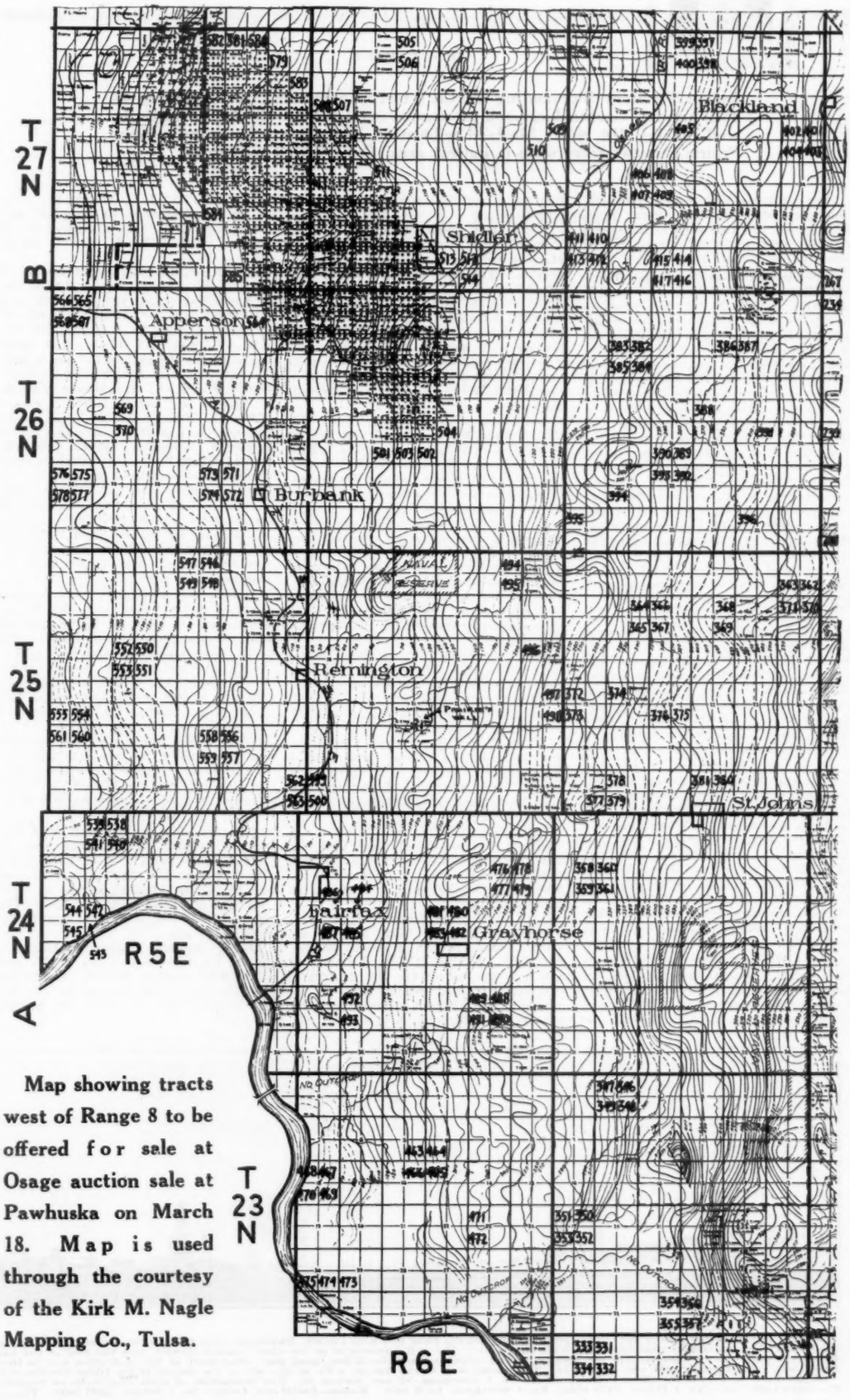
The Gypsy's Experience

The Gypsy Oil Co. up to February 1 had produced 16,569,202 bbls. on 16 leases on the Osage side of the field. Its northwest quarter of Section 24-27-5 has been the best producing lease in the Osage side of the field, with a total output up to the close of the report of 2,802,607 bbls. This lease has produced 17,516 bbls. to the acre. It cost the company in bonus $1,310,000, making the bonus price per barrel of oil produced 56.7 cents. The same company has another lease, the northwest quarter of Section 5-26-6, which had produced 938,200 bbls. from 15 wells or 5,864 bbls. per acre, but the bonus price per barrel was only 96-1,000, or about one-tenth of one cent per barrel. It has a third lease that presents a sad story. It is the northwest quarter of Section 28-27-6 on which only one well was drilled which produced 335 bbls. and was abandoned. This property has produced 2 bbls. per acre and the bonus price per barrel was $612, as the lease cost $205,000. Taken altogether, the Gypsy fared well. It paid $9,058,200 bonus for 2,560 acres of which 1,950 acres has been productive. It has had a recovery of 6,472 bbls. per acre on its leases as a whole but 8,496 bbls. per acre from its 1,950 producing acres, and the bonus price paid per barrel of production was a shade less than 55 cents.

Carter Did Well

The Carter Oil Co.'s properties present some sharp contrasts. The company's northeast quarter of Section 22-27-5, which has produced 2,295,926 bbls. up to February 1, has been its best producing tract in the field. It cost $1,025,000, or 44 cents per barrel of production. On the other hand the company's southeast quarter of Section 5-26-6, which produced

(Continued on Page 132)



Map showing tracts west of Range 8 to be offered for sale at Osage auction sale at Pawhuska on March 18. Map is used through the courtesy of the Kirk M. Nagle Mapping Co., Tulsa.

Oklahoma Field Operations

By J. L. Dwyer

Indian Territory Illuminating Oil Co.'s test in Seminole County flowing 40 bbls. hourly. Garber deep sand production extended one-third mile north by well making 410 bbls. Marland wildcat in Kay County looks promising. Prairie gets two more wells in Fairfax area. Gypsy's well holding up.

A good Hunton lime well in Seminole County, an extension of the Garber Field to the north, and two wells in the Osage were the chief topics of interest in the Oklahoma fields last week.

In Seminole County, the Indian Territory Illuminating Oil Co.'s No. 1, NW cor. SE, Section 24-9-6, had what is thought to be the Hunton lime two weeks ago at 3,978-80 feet and was good for 50 bbls. in this formation. It was drilled down to 4,006-9 feet and the latter sand may be the Wilcox. The well is flowing 40 bbls. an hour steadily from this newer depth, and is acting similarly to the deep sand wells at Wewoka as the good production was found right in the top of the sand. For three days the well has varied very little in production. The Indian Territory Illuminating Co. has given an extensive play to this section of Seminole County, and in the townships 9-6 and 8-6 it has several hundred acres of leases. The prospects of these two townships seem fairly good as they are in line with the southwest trend from the Cromwell Field. There are almost no leases available in either township.

In the Garber Field, D. W. Franchot has a well one-third mile north of deep sand production in No. 16, SW cor. SW, Section 7-22-3w. This well had the Wilcox sand 4,382-4,440 feet and is making 410 bbls. with no water. The lease upon which it was drilled joins the famous Sinclair Oil & Gas Co.'s Hartley lease on the north. This find will result in some drilling around the Franchot well.

In the new Fairfax area of Osage County, the Prairie Oil & Gas Co. has two more wells. The discovery well No. 1, SW cor. SE, Section 21-25-6 is maintaining a flow rate of 375 bbls., and No. 2, NW cor. SW SE, Section 21-25-6, had the top of the sand 2,692 feet with first oil 2,712 feet and a total depth of 2,723 feet. It made 186 bbls. the first day. No. 3, SE cor. SW SE, Section 21-25-6, made 105 bbls. the first day from sand 2,667-2,707 feet. Neither of these wells is as good as the discovery well.

In the Braman Townsite, the Comar Oil Co. has a well making 100 bbls. an hour in No. 3 Biddle, Section 5-28-1w. Stalnaker sand was found 2,368-78 feet and the well made 127 bbls. an hour the first 16 hours and settled down to 100 bbls. hourly.

Kay County Wildcat

In a wildcat well in Kay County, the Marland Oil Co. is threatened with production. The well is No. 1 Jones, NE cor. NE, Section 13-29-2w, and sand was found at 3,880 feet and just scratched. The well has made three very small flows, and is shut in awaiting the erection of tankage. It may be the Wilcox sand which has been discovered at this depth, but no samples have been examined and the identity of the sand is a matter of conjecture.

Southwest of Tulsa, the Gypsy Oil Co.'s Turkey Mountain sand well is still flowing at over 1,400 bbls. daily. This well, SW cor. NW, Section 6-18-12, found the pay sand 2,160-68 feet and has caused considerable activity around its location. There is ample area for a pool of good size to be discovered before dry holes sufficiently deep to cut off this sand are encountered.

In Payne County the Olean Petroleum Co. has a good well in No. 1 Stephenson, SE cor. SE, Section 14-19-4, one of the best wells to be completed in this pool. It flowed better than 80 bbls. an hour the first day.

In Creek County the Waite Phillips Co.'s No. 3 Alec, NW cor. NE SE, Section 27-17-8, had the Dutcher sand 3,124-3,131 feet and flowed 800 bbls. the first eight hours. This pool was discovered last fall by this company.

West of Sapulpa, Hiram C. Wilson and others have a Dutcher sand well in No. 1 Snapp, NE cor. NE, Section 34-17-10. Sand was 2,512-35 feet and the hole is standing with 2,000 feet of oil. It will be shot.

Southwest of Okmulgee the Champlin Refining Co. and the Windsor Oil Co. have a 600-bbl. well in No. 7 Holmes, SW cor. NE NW, Section 22-11-11, where the Dutcher sand was tapped at 2,484-2,502 feet.

Creek County

Roxana Petroleum Corp. has the rig on the ground for No. 1 Henderson, SE cor. NW, Section 5-17-8. Jomack Oil Co. has the rig up for No. 2 Bruner, NE cor. SW NE, Section 27-17-8. Inter-Ocean Oil Co. and others have a rig up for No. 3 Bigpond, NW cor. SE NE, Section 27-17-8. J. H. Wright has a rig up for No. 3 Kenney, SE cor. NW SE, Section 23-17-10, and also for No. 9 Dawson, CNL SE SW, Section 24-17-10.

Terrell Oil Co. has rigged up No. 2 Collins, NE cor. SE, Section 8-18-11. S. J. Smith has rigged up No. 1, NE cor. NW SW, Section 3-17-11. Kurrell Oil Co. has rigged up No. 3 Davies, SW cor. NW SW, Section 11-17-11. Mike Mead has a rig on the ground for No. 2 Wilson, SW cor. NW SW, Section 16-17-11. McClung and others have a machine drilling at 800 feet in No. 1 McCloud, CWL SW NW, Section 27-17-11. Sheridan Oil Co. and others have a machine in for No. 2 Fulsom, SW cor. NE NE, Section 30-16-11. Henry Oil Co. and others have completed a well in the Mounds district, No. 2, SE cor. SW, Section 5-16-12, and sand was 2,039-44 feet, and the well made 70 bbls. naturally. Sheldon and others' No. 4, CWL SW SW, Section 20-16-12, had sand 2,556-71 feet, and made 20 bbls. on the swab. It may be drilled deeper.

Prairie Oil & Gas Co. has spudded No. 39, C SE NE, Section 21-17-8. Transcontinental Oil Co.'s No. 3, NE cor. SE SW, Section 14-17-8, is drilling at 310 feet. Inter-Ocean Oil Co. and others' No. 1, SW cor. SE NE, Section 27-17-8, had sand 3,142-45 feet, and made 1,200 bbls. at first, and is now making 925 bbls. Waite Phillips Co. has completed No. 2, SE cor. NE SE, Section 27-17-8, for 800 bbls. naturally in sand 3,160-70 feet; and No. 4, NE cor. NW SE, Section 27-17-8, is spudded; and No. 1 NW cor. SE SE, Section 27-17-8, had sand 3,128-34 feet, and is good for 705 bbls.

Near Sapulpa

Near Sapulpa, the Sheridan Oil & Gas Co. has spudded No. 2 Sherrill, NW cor. NW, Section 2-18-11. S. E. Vance's No. 18, NW cor. NE, Section 3-18-12, had the top of the Mississippi lime at 1,727 feet, and the Wilcox sand at 1,990-2,014 feet, and the well is shut in with 1,500,000 feet of gas.

In the Bristow region, the Lima Oil & Gas Co. has spudded No. 2, SW cor. NW NW, Section 30-15-8. Skelly Oil Co. has the rig on the ground for No. 13 McKam, NE cor. NW SE, Section 13-14-8.

F. R. Billingslea has spudded No. 1 Canard, NW cor. SW SE, Section 28-19-8, and has completed No. 1, SE cor. NE, Section 12-18-8, for a gas well. Sand was 2,295-2,343 feet, and the well is shut in with 10,000,000 feet of gas. Industrial Oil & Gas Co. has moved in a rig for No. 1-A Sango, NW cor. SE NW, Section 6-18-12.

W. C. Cates is drilling at 1,250 feet in No. 1-A Ishmael, SW cor. NE, Section 13-18-12. Kurrell Oil Co. has spudded No. 3, SW cor. NW SW, Section 11-17-11. Mike Mead has built the rig for No. 2 Wilson, NW cor. SW, Section 16-17-11.

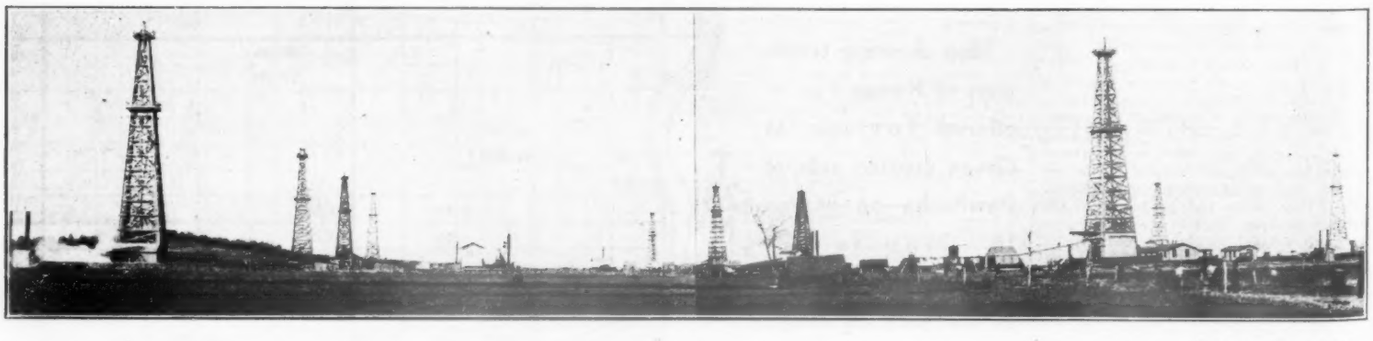
In the Bristow region, C. G. Tibbens has completed No. 12, NW cor. SE, Section 30-15-9. Sand was 3,028-36 feet, and the well made 840 bbls. naturally. Skelly Oil Co.'s No. 3, SW cor. NW NE, Section 31-15-9, had sand 1,246-76 feet, and made 100 bbls. after a shot of 60 quarts. Phillips Petroleum Co. is drilling at 450 feet in No. 1, SW cor. NW, Section 7-14-9. Tom Kelly has a dry hole in No. 1, SW cor. NE SW, Section 3-14-10, at 3,265 feet. Independent Oil & Gas Co. has moved in a rig for No. 1 Katie Berr, SW cor. NW, Section 29-14-10. The Texas Co. has a rig on the ground for No. 1 Bear, NW cor. SW, Section 29-14-10. Wood Oil Co.'s No. 1, NE cor. SE, Section 30-14-10, had sand 2,870-78 feet, and 2,892-2,909 feet, and made 135 bbls. naturally. It was shot with 50 quarts and then made 175 bbls.

Okmulgee County

Kewanee Oil & Gas Co. has a machine in for No. 2-A Stewart, SE cor. NW, Section 4-16-13. Prairie Oil & Gas Co.'s No. 4, NE cor. SW, Section 4-16-13, had sand 2,113-23 feet, with water in the bottom. It made 20 bbls. on the pump. W. O. Dickenson's No. 1-A, CNL SW SW, Section 12-16-13, had sand 1,520-38 feet, and is estimated at 25 bbls. naturally. McCulloch and others have a rig on the ground for No. 1 Staley, NE cor. NW SE, Section 29-16-13. W. Brennan has spudded No. 1 Williams, NE cor. SW, Section 16-16-14. C. S. Wilson has completed a shallow gas well in No. 1 Davis, SW cor. NE SW, Section 11-16-16. Sand was 801-808 feet, and the well is shut in with 10,000,000 feet of gas.

Near Beggs, the Nowata Oil Co. has a machine on the ground for No. 4 Williams, CNL NE SE, Section 4-15-11. Sheridan Oil Co.'s No. 2 CNL SE NE, Section 4-15-11, had sand 1,978-2,017 feet, and is making 35 bbls. after a shot of 100 quarts. Kellough and others have a dry hole in No. 1, SE cor. NW SE, Section 29-15-11, which is abandoned at 2,992 feet. The Carter Oil Co. and E. P. Jones have completed No. 6, C NE SW, Section 14-15-12, for 30 bbls. on the swab from sand 2,657-77 feet. Mid-Continent Petroleum Co. is drilling at 600 feet in No. 6, C NE SW, Section 14-15-12. Noble Oil & Gas Co. has a rig on the ground for No. 2 Shephard, SE cor. NE, Section 22-15-12. Barbara Oil Co. has completed No. 3, CWL NE NW, Section 35-15-12, for 16,000,000 feet of gas in sand 1,881-87 feet.

South of Beggs, George Simons and



—Photo by Ward, Tulsa.

The above picture of the Wilcox sand development in the Ingalls Field in Payne County, Oklahoma, was taken with the camera pointing north. It shows the four completed Wilcox sand wells which on Sunday were producing 6,778 bbls. a day. The well represented by the short wooden derrick over the roof of the barn near the center of the picture is the Olean Petroleum Co.'s No. 1 Pleasants, NW cor. Section 24-19-4, which opened the Wilcox sand pay. Just north of this well (first well to the left of it in the picture) is the Roxana Petroleum Corp.'s No. 1 Stover, SW cor. Section 13. The second well in the line of wells on the left of the picture is the Olean Petroleum Co.'s No. 1 Baker, NE cor. Section 23, and the well just north of that is the Olean Petroleum Co.'s No. 1 Stevenson, SE cor. Section 14. The production of these four wells on Sunday was as follows: Olean Petroleum Co.'s No. 1 Pleasants 1,690 bbls.; No. 1 Baker, 1,470 bbls.; No. 1 Stevenson, 1,570 bbls. Roxana Petroleum Corp.'s No. 1 Stover, 2,048 bbls. The sand lies at approximately 3,775 feet in depth.

If every refiner knew what every Dubbs licensee knows, every refiner would be a Dubbs licensee

Universal Oil Products Company
Owners of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

others have a failure in No. 8, SE cor. SW NE, Section 12-14-11, which is abandoned at 3,745 feet. The Carter Oil Co. has a rig on the ground for No. 4 Grayson, SW cor. NE, Section 23-14-11. T. A. Johnston & Co. and others have spudded No. 4, NE cor. SW NW, Section 22-14-12.

Devonian Oil Co. and Independent Oil & Gas Co. have a rig on the ground for No. 8 Fields, CNL NW SE SW, Section 7-15-13. W. B. Pine has a rig on the ground for No. 8 Doyle, NE cor. NW NW, Section 18-15-13. North of Morris, the Amerada Petroleum Corp. and others have a dry hole in No. 1-A, SW cor. NW SE, Section 26-14-13, at 2,676 feet. J. K. Gardner and others have a rig on the ground for No. 3 Gibson, NW cor. NE SW, Section 32-14-13. J. L. Selby has completed No. 15 Anderson, CNL SE NW, Section 35-15-14, for 15 bbls. after a shot of 120 quarts in sand 1,119-58 feet. Link Oil Co. has a rig on the ground for No. 6 Sango, NW cor. SE NE, Section 29-15-15.

The Carter Oil Co. has spudded No. 2, SW cor. NW NE, Section 18-12-12. Independent Oil & Gas Co. and the Anglo-Texas Oil Co. have spudded No. 6, CEL NE NW, Section 18-12-12.

Near Morris, the Roxana Petroleum Corp.'s No. 6, SW cor. NW SE, Section 15-13-14, had sand 2,436-48 feet, and made 360 bbls. naturally. Iron Mountain Oil Co. has spudded No. 17, CSL NE NE SW, Section 24-13-14. W. R. Summerville has spudded No. 16, SW cor. NW, Section 25-13-14. J. H. Rebold has a rig up for No. 3 Hill, SE cor. NW SE, Section 27-13-14.

West of Henryetta, the Atlantic Oil Producing Co. has completed No. 8, C SW NW, Section 16-11-11, for 75 bbls. from sand 2,754-60 feet. Minnehoma Oil Co. has completed a gas well in No. 5-W, SE cor. NE NE, Section 24-11-11. Sand was 3,380-3,438 feet, and the well is shut in with 4,000,000 feet of gas.

Riverland Oil Co. has a dry hole in the Mounds district; it is No. 1, NE cor. SW SW, Section 18-16-11, and is abandoned at 2,985 feet. R. A. Irwin and others have moved in the rig for No. 1 Peters, SW cor. NE SE, Section 20-16-11. Sheldon and others have completed No. 4, CWL SW, Section 20-16-12. Sand was 2,556-71 feet, and the well is making 10 bbls. on the pump. Devonian Oil Co. is drilling at 450 feet in No. 3 C SE SE, Section 24-16-12. Gilliland Oil Co.'s No. 1-A, SW cor. SE SW, Section 23-16-14, is dry and plugged at 2,255 feet.

Osage County

The Edgewood Oil Co. has completed No. 6 C SE NE, Section 15-29-10, for 85 bbls. after a shot of 90 quarts in sand 1,050-83 feet. Indian Territory Illuminating Oil Co.'s No. 14, CNL NW SE, Section 15-29-10, had sand 988-1,014 feet, and is good for 25 bbls. after a shot of 100 quarts; No. CWL SW NE SE, Section 15-29-10, is drilling at 350 feet; and No. 209, SW cor. NW NW, Section 23-29-10, had sand 1,780-85 feet, with a total depth of 1,800 feet, was plugged back to 1,785 feet and completed for 1,500,000 feet of gas. Owen-Osage Co. has spudded No. 361, C E half NW, Section 21-28-10.

In the Burbank Field, the Skelly Oil Co.'s No. 6, CEL SE NE SW, Section 2-27-5, had sand 2,920-78 feet and made 175 bbls. after a shot of 120 quarts; No. 7, CNL NE NE SW, Section 2-27-5, is drilling at 260 feet. Phillips Petroleum Co.'s No. 14, CNL NE NW SE, Section 2-27-5, is drilling at 550 feet; and No. 15, CNL NW NE SE, Section 2-27-5, had sand 2,918-68 feet, and made 800 bbls. the first 15 hours; No. 7, NE cor. SW SE, Section 20-27-6, had sand 2890-2,936 feet, and swabbed 100 bbls. the first day after a shot of 120 quarts.

The Barnsdall Oil Co. has a dry hole in No. 2, CEL SE, Section 15-27-10, which is abandoned at 2,070 feet. Skelton & Moore have a rig up for No. 9, NW cor. SE SE, Section 32-26-12. Tidal Oil Co. has rigged up No. 4, NE cor. SE SE, Section 24-24-8. Continental Oil Co. is rigging up to drill deeper in an old well, No. 1, SE cor. SE, Section 29-24-8, old total depth is 2,593 feet; No. 4, SE cor. NE SE, Section 29-24-8, is spudded. Tidal-Osage Oil Co. has rigged up No. 2, CNL NE SE, Section 20-24-9. Continental Oil Co. and the Prairie Oil & Gas Co. have rigged up No. 6, SW cor. SW, Section 29-24-8. Devonian Oil Co. has completed a Bartlesville sand well in No. 13, CNL NE NW, Section 34-25-11. Sand was 1,715-54 feet, and the well was shot with 100 quarts and is estimated at 10 bbls. 45 Oil Co.'s No. 40, C W half NE, Section 5-25-12, had sand 1,553-1,600 feet, and is making 8 bbls. after a shot of 120 quarts.

Clint Moore and others' No. 1, NW cor. NW, Section 14-21-9, had sand 2,262-2,312 feet, and is good for 10 bbls. after a shot of 10 quarts. Mid-Kansas Oil Co.'s No. 5, SE cor. NW NW, Section 11-21-10, had sand 2,299-2,327 feet, and 2,353-57 feet, and made 275 bbls. the first day; the rig is on the ground for No. 6, SW cor. NE NW, Section 11-21-10. Oklahoma Natural Gas Co. is drilling at 850 feet in No. 710, SE cor. SE NW, Section 14-21-10. Echo Oil Co. has the rig up for No. 1, NE cor. SE, Section 29-20-10. Titus & Norris have a dry hole in No. 3, SW cor. NE, Section 7-21-11, which is abandoned at 2,095 feet. Skelly Oil Co. has abandoned the location for No. 2, NW cor. SE, Section 7-21-11.

Lincoln County

In the Skelly-Ford area, the Carter Oil Co.'s No. 3, SW cor. SE SE, Section 6-15-6, had sand 4,067-70 feet, and flowed 69 bbls. the first day and 58 bbls. the next day. A 5-quart squib went off prematurely and damaged the casing, which is being swedged. The Prairie Oil & Gas Co.'s No. 1, NE cor. SE, Section 7-15-6, had sand 4,076-79 feet, and made 100 bbls. oil and 20 bbls. water originally. It is now making 82 bbls. oil and 14 bbls. water. Skelly Oil Co. has spudded No. 5, NE cor. SE NE, Section 7-15-6. Mid-Continent Petroleum Corp. has set the surface casing in No. 3 Earp, NW cor. SW NW, Section 8-15-6; and No. 4 Earp, NE cor. SW NW, Section 8-15-6, is rigging up.

In the Davenport Pool, the Amerada Petroleum Corp.'s No. 3, NE cor. SE, Section 2-14-5, had sand 3,399-3,442 feet, and the well made 246 bbls. naturally. It was shot with 40 quarts and made 250 bbls.; No. 4, SE cor. NE SE, Section 2-14-5, is drilling at 120 feet. The Carter Oil Co.'s No. 7, NW cor. NE NE, Section 2-14-5, had sand 3,333-35 feet, and 3,346-3,407 feet. It is making 65 bbls. Magnolia Petroleum Co.'s No. 14, SW cor. SE NW, Section 2-14-5, had sand 3,302-3,400 feet, and made 200 bbls. naturally. Skelly Oil Co.'s No. 6, NE cor. SE NE, Section 2-14-5, had sand 3,380-3,415 feet, and made 110 bbls. the first day after a shot of 30 quarts. The Texas Co.'s No. 7, NE cor. SW SE, Section 2-14-5, had the sand 3,314-68 feet, and is making 37 bbls. an hour with the well drilling deeper; No. 1-A, NW cor. SE SE, Section 2-14-5, has set the surface casing.

Twin State Oil Co.'s No. 9 Bigwater, C NE NW, Section 2-14-5, is rigged up. Amerada Petroleum Corp.'s No. 5, SW cor. NW SW, Section 3-14-5, had sand 3,440-63 feet, and made 100 bbls. the first 17 hours; it will be shot. Prairie Oil & Gas Co. has completed No. 17 Stout, SE cor. NW NW, Section 3-14-5. Sand was 3,401-46 feet, and the well made 170 bbls. naturally. It was shot with 15 and with 20 quarts and made 185 bbls.; No. 19 Stout, C S half SE NE, Section 3-14-5, is spudded. Magnolia Petroleum Co. has a rotary rig up for No. 5 Thompson, SE cor. NE NE, Section 4-14-5. Phillips Petroleum Co. is drilling at 1,593 feet in No. 4, NE cor. SW NE, Section 10-14-5; and No. 5, SW cor. SE NE, Section 10-14-5, is drilling at 350 feet. Shaffer Oil Co.'s No. 2, SE cor. NE NE, Section 10-14-5, had sand 3,347-3,401 feet, and made 135 bbls. the first day. It will be shot with 80 quarts; No. 4, NW cor. NE NE, Section 10-14-5, is drilling at 615 feet, and No. 5, SE cor. NW NE, Section 10-14-5, is drilling at 588 feet.

Southwestern Petroleum Co.'s No. 1, NW cor. NE, Section 11-14-5, had sand 3,365-3,411 feet, and made 545 bbls. the first 18 hours. It was shot with 40 quarts and made 818 bbls. the next day and is now making 625 bbls. after being shot three times.

Okfuskee County

Darby Petroleum Co. is drilling at 400 feet in No. 2, NE cor. NW SW, Section 14-13-9. The Atlantic Oil Producing Co. and Johnson & Ash have spudded No. 1, SE cor. NW NE, Section 21-13-10. Blakely and others are drilling at 420 feet in No. 1, SW cor. NE, Section 1-12-9. John Burns and others are drilling at 450 feet in No. 7, NW cor. SW NW, Section 7-12-11. J. K. Leard has spudded No. 1, NE cor. SW, Section 13-12-11. Independent Oil & Gas Co. has a failure in No. 2, NW cor. SE, Section 15-12-11, which is abandoned at 3,575 feet.

Carter Oil Co. and others' No. 8, NW cor. NE NW, Section 33-11-8, had sand 3,386-3,416 feet, and made 40 bbls. after a shot of 30 quarts. Mid-Continent Petroleum Corp.'s No. 1, NE cor. NW NW, Section 21-10-9, had sand 3,232-40 feet, and made 35,000,000 feet of gas. Amerada Petroleum Corp.'s No. 7, SW cor. NE SW, Section 36-10-9, is drilling at 750 feet.

Pawnee County

Magnolia Petroleum Co.'s No. 1, NE cor. NE, Section 36-23-4, had sand 2,935-44 feet, and is standing with 1,200 feet of oil in the hole. Minnehoma Oil Co.'s No. 4 Childers, SE cor. NE NW, Section 7-20-8, is a new rig.

In the Watchorn Pool, the Watchorn Oil & Gas Co.'s No. 12, NE cor. SE SW, Section 33-23-3, had sand 4,057-78 feet, and made 177 bbls. on the swab. In the Masham area, the Magnolia Petroleum Co. is drilling at 325 feet in No. 1, NE cor. SE, Section 16-22-4. Magnolia Petroleum Co. has a dry hole in No. 1, SW cor. SW, Section 29-23-5, at 4,635 feet.

In the south end of the county, the Magnolia Petroleum Co. has a rig on the ground for No. 1 Maxwell, NW cor. SW, Section 2-20-6; and also for No. 2 Gowling, SW cor. NE SW, Section 9-20-6. Ell-Mar Oil Co.'s No. 6, SE cor. NW SW, Section 16-20-6, had sand 3,052-81 feet, and is good for 30 bbls. after a shot of 30 quarts. Magnolia Petroleum Co.'s No. 3, SW cor. NE SW, Section 16-20-6, had sand 3,025-63 feet, and is making 20 bbls. daily. The Cortez Oil Co. has spudded No. 1, NW cor. SE, Section 36-20-6.

John H. Markham, Jr. has a dry hole in No. 1, SW cor. SW, Section 9-20-7, which is abandoned at 3,397 feet. Sinclair Oil & Gas Co. has completed No. 5, SW cor. NE, Section 10-20-8, sand was 2,572-81 feet, and the well made 325 bbls. naturally. Holmes and others are drilling at 510 feet in No. 3 Stoveman, SE cor. SE, Section 28-20-9. W. E. Holmes' No. 1, NE cor. NW NE, Section 33-20-9, is dry and abandoned at 2,918 feet.

Payne County

Roxana Petroleum Corp.'s No. 1, SW cor. SW, Section 13-19-4, flowed 2,000 bbls. from sand 3,714-22 feet. It was deepened to 3,724 feet with no increase. Same company's No. 3, SE cor. SW SW, Section 13-19-4, is drilling at 1,593 feet. Olean Petroleum Co.'s No. 2, SE cor. NE NE, Section 23-19-4, drilling at 1,250 feet; No. 1, NE cor. NE, Section 23-19-4, is making 1,200 bbls. from sand 3,721-29 feet; No. 1 Pleasants, NW cor. NW, Section 24-19-4, had the sand 3,715-25 feet and swabbed and flowed 2,015 bbls. originally and is now making 1,105 bbls.; No. 3, NE cor. NW NW, Section 24-19-4, is drilling at 700 feet. Magnolia Petroleum Co.'s No. 1 Stover, NE cor. SE NE, Section 23-19-4, is a new rig.

The Mulberry Oil Co. is rigging up tools for No. 1 Sharum, C NW NW, Section 5-17-4, an old well drilled deeper. Magnolia Petroleum Co. has completed a gas well in No. 3, SE cor. NE, Section 6-17-4. Sand was 3,691-3,719 feet and the well shut in with 11,000,000 feet of gas; No. 4, CNL NE NE, Section 6-17-4, is drilling at 200 feet. Mulberry Oil Co. has cemented the 8-inch casing at 2,754 feet in No. 1, CNL NW NE, Section 6-17-4.

(Continued on Page 121)

Kansas Oil Field News

By J. L. Dwyer

The Kansas oil fields were comparatively quiet last week, with the Kingman County boom on the wane. This spot came into prominence several weeks ago when a deep sand was found by the wildcat well of the Carter Oil Co. and Port D. Fleeger, and the well (Section 16-27-7w) was drilled deeper two weeks ago. At the increased depth it started flowing 40 bbls. an hour, and this figure has decreased to 160 bbls. daily, the present yield of the well. The present total depth of the well is 3,889 feet.

Reports from the field vary as to the origin of the water, which is cutting the oil very badly. Some are inclined to believed that it is coming from behind the pipe, but the majority of field men who are on the ground state that the water is bottom hole water. The casing is set 12-feet above the top of the sand, and in this condition, it is difficult to ascertain where the water originates. The majority of reports credit the well with cutting 30 per cent.

There have been several wells started as a result of this find, and, although the well may be an edge well, it is very likely the forerunner of production in this section of Kansas.

One land man for a Tulsa oil concern stated that the find at Kingman broke in on the plan of two oil companies to checkerboard acreage directly northeast from the Texas Panhandle country and a study of leases purchased verifies this theory to some extent.

Greenwood County, and particularly the Golden Lane, are in the news with the regular number of completions. The Russell Pool in Russell County is making approximately 5,000 bbls. daily.

Greenwood County

Harwood & Winters are drilling at 450 feet in No. 1, SW cor. NE, Section 19-24-11. Ward McGinnis has a dry hole in No. 2-A, NW cor. SE, Section 30-24-11, which is abandoned at 2,025 feet; No. 2-C, NE cor. NW, Section 30-24-11, is drilling at 850 feet. Polhamus and others are drilling at 700 feet in No. 1, SE cor. NW, Section 32-24-11. Prairie Oil & Gas Co.'s No. 4 Blackwell, CNL SE, Section 16-24-13, is rigged up and spudding. Rhodes & Able have completed No. 3, CSL NE, Section 16-24-13. Sand was 1,670-1,716 feet, with the first oil at 1,698 feet, and the well made 30 bbls. after a shot of 80 quarts. R. L. Brinnegar's No. 1, NE cor. SW NE, Section 23-26-14, is making 150 bbls. in sand 1,204-76 feet after a shot of 100 quarts.

Greenland Oil Co. and Phillips have completed No. 5, NW cor. SW, Section 25-23-8, for 75 bbls. after a shot of 60 quarts in sand 2,487-94 feet, and No. 6, NW cor. SW SW, Section 25-23-8, had sand 2,517-50 feet and is making 100 bbls. after a shot of 30 quarts. In the Pixlee area, the Phillips Petroleum Co. has a dry hole in No. 1, NW cor. NE, Section 3-22-10, at 2,235 feet. Empire Gas & Fuel Co.'s No. 2, NW cor. NE NW, Section 6-22-10, had sand 2,234-91 feet, and made 250 bbls. after a shot of 140 quarts. Kansan Oil Co.'s No. 1, NE cor. NE, Section 6-22-10, had sand 2,259-2,308 feet, and made 257 bbls. after a shot of 160 quarts; No. 2, SW cor. NW NE, Section 6-22-10, is spudded. Theta Oil Co.'s No. 6, SW cor. SE SE, Section 8-22-10, had sand 2,265-2,331 feet, and made 100 bbls. after a shot of 140 quarts; No. 7, CSL NE SE, Section 8-22-10, is good for 25 bbls. after a shot of 80 quarts in sand 2,315-49 feet.

Davis, Hazlett and others' No. 11, SW cor. NE, Section 12-22-10, had sand 2,-

(Continued on Page 114)

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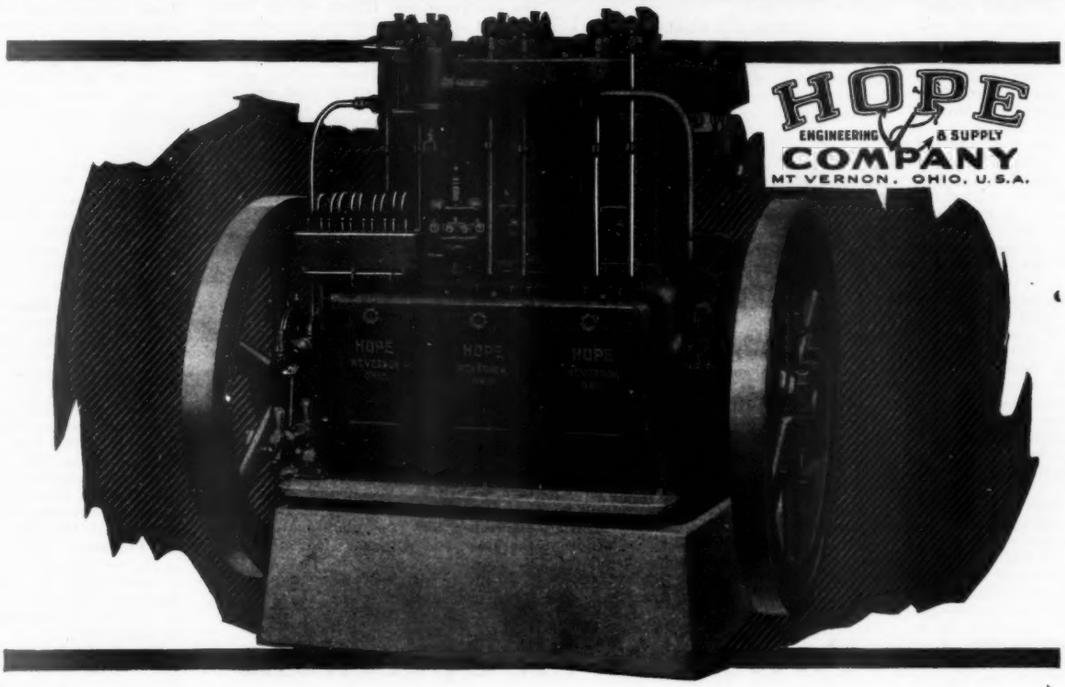

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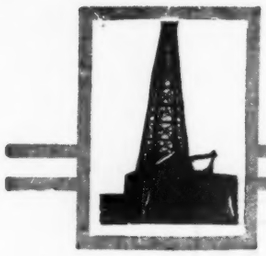


Southwest Texas Fields

By B. D. Stevenson

Humble Co.'s No. 5 Walsh and Moody-Seagrave's No. 1 Walsh offsets to Humble's No. 1 Walsh, Piedras Pintas, Duval County, nearing production. No. 1 increases output to 1,300 bbls. and had produced 65,000 bbls. to end of February. Purchases of property in Randado and Laredo Fields.

SAN ANTONIO, Tex. Mar. 8.—Both the Humble Oil & Refining Co.'s No. 5 Walsh in the Piedras Pintas salt dome and the Moody-Seagraves and William F. Morgan No. 1 Walsh, offsets to the Humble's discovery well in Duval County, are close to the depth at which production was had in the discovery well and completions are looked for in a few days. They are the next wells to be drilled in since the discovery well. The discovery well got the pay at 3,623 feet. Saturday reports indicated the Moody-Seagraves and William F. Morgan No. 1 Walsh, located about 400 feet west of the Humble's discovery well, was on the sand at a little below 3,400 feet and hitting the pay about 200 feet higher up than in the discovery well. It was showing oil. The Humble's No. 5 Walsh, about 450 feet southeast of the discovery well was below 3,500 feet and having a showing of oil.

All three wells are supposed to be on the east or southeast flank of the salt dome and lately there is a school of geologists saying there is a fault line running through the field from northeast to southwest and located only a little to the northwest of these wells. Completions in each of these two new wells seem destined to be accomplished at about the same time. Each has been coring ahead very carefully, feeling for the sand for several days.

Humble's discovery well was brought in December 20 and it will be remembered produced through a choker about 42,000 bbls. down to January 15 when it choked up and went dead. By January 29 it was on the pump and cleaned out and made a head and then settled down to a pumper at about 400 bbls. but increased up to 1,000 and dropped back to 630. Last week it increased up to about 1,300 bbls. on one day's gauge. Up to the last of February this well had produced a total of about 65 000 bbls. as shown by the shipments in tank cars over the Texas Mexican railroad. The oil is $2 oil. At the recent stockholders meeting in Houston President W. S. Farish, of the Humble company, announced the company would at once build a pipe line from the field to Corpus Christi and work has already started.

Piedras Pintas Tests

Other tests in the Piedras Pintas district are the J. K. Hughes No. 1 Peters which was rigging up last week. The derrick has been up for some time and two rigs shipped but each diverted before they were set up. The rig is now going in and the test will spud in 1,800 feet north of the discovery well of the Humble. Grayburg Oil Co., on the Halff tract, about a mile north of the Humble well, is down 500 feet in its oil test and in a cavity which it encountered, but was successful in shutting off in the water well previously completed at the same depth. Magnolia Co.'s No. 1 about a half mile northwest is drilling at about 800 feet and these are the only tests thus far started in the immediate territory.

Humble Oil & Refining Co. is drilling at about 2,100 feet in No. 4 Schallert on the Palangana salt dome about 6 miles northwest of the Piedras Pintas discovery well, and H. A. Speers is erecting a 60-foot derrick for a shallow test on a location about midway between the two salt domes. R. F. Duggan and D. W. Maurer are erecting a 112-foot derrick on the Hoffman land about 6 miles farther northwest from the Palangana salt dome, the location being 150 feet from the center of the northwest line of Survey 123. The contract calls for setting 8¼-inch at 2,500 feet indicating plans to drill deep.

Cole Gas Field

In the Cole gas field where the Cin-Tex Petroleum Co. brought in No. 1 Benavides, an oil well, on Block 16 of Section 10 and which is now shut in waiting for the completion of the Magnolia's pipe line to the tank farm at Mirando City, Cin-Tex Co. has set casing on its No. 2 which is 505 feet to the east and Moody-Seagraves and William F. Morgan have set casing on their No. 1 which is a half mile north of the Cin-Tex discovery well. Both were to be drilled in the first of this week, though the Cin-Tex will wait on the completion of the pipe line. This line was expected to be completed by Wednesday of this week since it had but 3 miles to lay on Saturday and the pipe was arriving at the rate of about 1 mile a day.

Cin-Tex Petroleum Co.'s discovery well topped the pay at 1,010 feet below the sea level. The Killam-Secord gas well which came in over a week ago about a half-mile south, topped the gas sand at 935 feet above sea level and the Moody-Seagraves well a half-mile north has the sand at 985 feet above sea level. The core in the Moody-Seagraves well is taken by some as indicating that it will be an oil well. The Cin-Tex well is being offset on all sides though it has never made but one head when it first came in and has been shut down ever since waiting for the pipe line. Houston Oil Co., which recently bought a big block of acreage from the Cole Petroleum Co. surrounding the well, is offsetting it on the southeast and Cole is offseting it on the southwest and Killam on the northwest. Cin-Tex is offsetting its own well on the east and the Moody-Seagraves and Morgan well is a half-mile north. Houston Co. has set 10-inch surface casing in its test. Cole and Killam are just starting to drill.

Cole Petroleum Co.'s No. 10 Benavides, in Block 5 of Section 3, 3 miles to the northeast, tested salt water at 2,618 feet and is a failure. Many had high hopes on its being a big gas well.

Mirando District

Houston Gulf Gas Co. (Moody-Seagraves) has bought the C. O. M. B. block of acreage in the Randado district near the Pippin well that was brought in last fall at a depth of 1,268 feet and with a flush production on the pump of about 100 bbls. a day. The deal involves 200 acres all in Survey 291 where the discovery well is located. Forty acres is in the southern part of the survey and north of the Magnolia's producing well and the south of the Pippin well. The other 160 is north of the Pippin well and between it and the Simms gas well on the same survey. Houston Gulf Gas Co. at once resumed drilling on the offset well started to the Magnolia and made locations for additional tests in the block and will start two other wells at once.

In the district between the old Mirando Valley Pool and the Aviators or Edgington district, in Webb County, Lucas-Kirkpatrick completed their No. 2 well on Survey 835 at 1,666 feet making about 20,000,000 feet of gas daily. Casing was set at 1,643 feet. The well is about 1,000 feet east and a little west of No. 1 which came in a gasser late last year. The company moved to the east hoping to get oil. Since the well was started George M. Ball has brought in a well less than a mile to the northeast on Block 45 of the Bruni tract, which is now pumping about 75 bbls. of oil a day. Sun Oil Co. has started drilling an offset to Ball on the east and Crown Central Corp. owns the acreage north (instead of Dauchy & Bryant as previously reported) and will at once offset Ball to the north. Lucas-Kirkpatrick will move 800 feet farther to the east and start another test hoping to get oil.

K. & S. Corp., on Block 19 of Section 12, of the Holbein ranch, has completed another gas well good for about 20,000,000 feet, making several wells in that territory. Casing was set at 2,097 feet and the well brought in at 2,107 feet. L. M. Holden in No. 1 Jones in Jim Hogg County, east of Hebbronville, a wildcat, is said to have a showing of oil at 2,710 feet and has set casing to test.

Benedum & Trees, who recently closed deals for big blocks of acreage in the Laredo district, particularly for three blocks out of the Wilbur Allen ranch in Jim Hogg County, and announced an intention to drill about 10 wells in south Texas during the year, have let the contract for the derrick for the first of the tests. A derrick is going up for the first test on the Wilbur Allen ranch in Jim Hogg, another on the Wormser ranch in Duval and another on the Gallagher ranch in Jim Wells County. Pittsburgh Oil Development Co. is to drill the wells.

Jim Hogg County

In the northeast corner of the Holbien ranch in Jim Hogg County, O. W. Killam tested salt water at 2,547 feet. Simms has spudded in on the test on the Oscar Thompson tract in the south part of the Las Animas grant. O. W. Killam in the proven district in the Henne, Winch & Farris Pool has brought in No. 4-B on Survey 276 at 2,037 feet, which is good for around 20 bbls. flush production and has the derrick up for No. 5-B and has surveyed three other locations. The Rydal Oil Corp. and the Rycade Oil Co. have started their No. 3 Vela in the northwest corner of Block 1 which is practically in the proven district. Magnolia Petroleum Co. has set casing in its No. 11 Martinez in Survey 256 at 2,084 feet.

Dr. A. L. Edgington, on Block 75 of the Edgington subdivision of the Puig Brothers ranch, has completed No. 2 Puig which swabbed at the rate of over 1,000 bbls. a day when it first came in. It looks like a better well than his No. 1 and the No. 1 which offset the Keene well on the Bruni tract has been pumping over 150 bbls. a day. Casing was set at 1,712 feet and the total depth is 1,726 feet. On Block 67, to the north a distance of about 1,600 feet and 300 feet east of the Edgington No. 1 Puig, George M. Ball is trying to complete his No. 1 Puig on that block. He has a fishing job on hand and the hole has never been cleaned of the mud but is flowing a lot of oil and looks like a good producer if it can be completed. The condition of the well is not serious.

In the Carolina-Texas district Johnson & DeTray's No. 1 Vela on Survey 1012, a mile southeast of the nearest gasser in the Carolina-Texas district, is now a crater 75 feet across and 40 or 50 feet deep and is still making lots of gas and throwing water 25 to 30 feet into the air. The gas volume is gradually subsiding. The volume of water is still as large as ever. There is no possibility of controlling the well or doing anything with it. It got the gas sand at 2,710 feet and was one of the biggest wells ever completed in the field.

Burton, on Survey 679 in the Carolina-Texas Field, is drilling at 1,300 feet. Richison, on the Billingsley tract, is shut down for water at 1,360 feet and Henne & Winch, on Survey 43, northeast of the Carolina-Texas, is drilling below 1,900 feet.

Artesia, N. M. Operations

By Special Correspondent

ARTESIA, N. Mex., Mar. 5.—Six strata of pay sand, totaling 145 feet, have been picked up between 2,330 to 2,585 feet in No. 1 Baish of the Maljamar Oil & Gas Corp., which recently opened up what is known as the Maljamar Pool in Section 21-17-32, Lea County. While all of the sands have carried considerable free oil, together with some gas, it is the intention of the Maljamar to carry this hole down as a deep test, as it is now working in a 12½-inch hole, which is in excellent condition.

A number of new locations are being made and drilling of two of these will start within the next 30 days. The Humble Oil & Refining Co. has purchased 160 acres close in. Considerable acreage, outside of the Maljamar block, has changed hands most of which has been purchased by independents.

Another test to attract attention in the Pecos Valley is the World Co.'s No. 1 Abrams in Section 39, Block 57, Township 2, Reeves County, Texas, near the town or Orla, about 15 miles south of the state line. A gas blowout at 2,936 feet put the tools to the crown block and later bridged the hole.

The Empire Oil & Gas Co. has also had a good showing in its wildcat in Section 21-34-27, near the town of Malaga, N. Mex., 18 miles south of Carlsbad.

In the proven area, Flynn, Welch & Yates have completed the best well in the field in their No. 32 in Section 28-18-28, offsetting No. 5 of the Ohio Oil Co. on the Toomie Allen lease. The well has been flowing naturally at the rate of 300 bbls., this from a depth of 2,700 feet. The casing has been perforated at the 2,100-foot sand as from this pay the hole produced 100 bbls. daily.

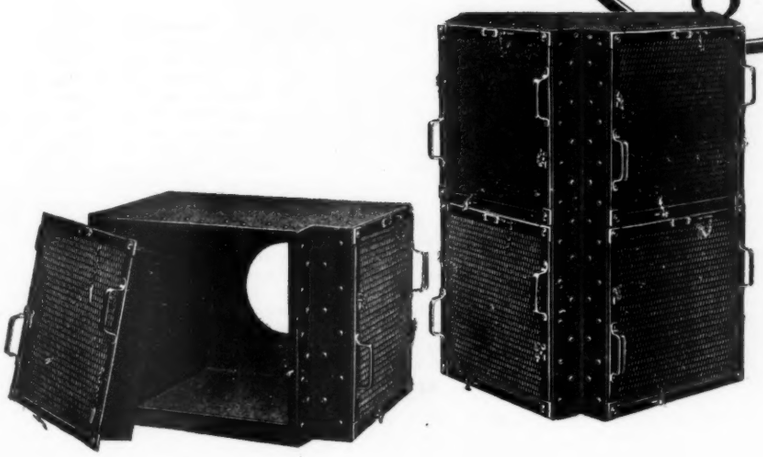
Completion of this company's No. 39 deep test in the SE of Section 21-18-28, will be of the greatest importance to the field, it being located in what is considered the most prolific territory.

Additional pay sands have been picked up in the Mesa Oil Co.'s No. 1 test in Section 4-19-28, with the hole now down 2,900 feet. It is necessary to bail the hole every several hours to keep the fluid down.

In the NE of the NE of Section 9-18-28 the Valley Development Co. has a nice producer in No. 1 Schram, it putting 110 bbls. in the tank in 35 minutes. This producer was shot from 2,300-2,403 feet and when settled it will be good for 60 bbls.

Several new locations have been made during the week. Swartz and others have moved on the Brainard-McCrary permit in Section 5-18-27. The Texas Co. is rigging up in the NW of the NE of the NE of Section 8-18-28. This company's deep test in Section 5-18-28 is now drilling below 3,300 feet.

Clean fuel air for oil engines



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North Louisiana-Arkansas

By M. L. Vaughn

Production at Urania not up to expectations, but with increase of over 1,000 bbls., Hunt, McCurry and Zoder completion extends production north a half mile nearer Urania. Lisbon district doing 1,215 bbls. daily. Marine Oil Co. producer there estimated 700 bbls. of 47 gravity oil.

SHREVEPORT, La., March 8.—Production in the Urania Field did not quite come to up expectations during the past week, although there was an increase in the daily average of over 1,000 bbls. The important extension of the field made by Hunt, McCurry & Zoder when their No. 1 Urania in Section 7-10-2e came in at 1,520 feet, flowing 350 bbls. in 2 feet of sand, is the first producer north of the discovery well in Section 18-10-2e, previous development of producing territory having been entirely to the west and south. The new well carries the producing territory half a mile north and to within half a mile of the town of Urania. The completion of this well will undoubtedly result in a drilling campaign around Urania as intense as that which has been in progress during the past few weeks with Tullos as a center.

Rowe and others, who tested salt water in one of the first tests following the completion of the discovery well, have started another well on their lease, which lies only a quarter of a mile west and north of the Hunt, McCurry & Zoder well and in the same section, and numerous offsets are being started on other adjacent leases.

The Louisiana Oil Refining Corp. is in the lead in the Urania Field in operations and production. Production from 20 wells averages approximately 3,275 bbls. a day, with two more arranging to pump and 10 or 12 rigs running. The Standard Oil Co. was late getting into the field and most of its leases were acquired west and south of production, extending over into Winn Parish. Several locations were made by the Standard last week on the Albritton land in Section 27-10-1e, a mile west of the Tullos production, No. 1 rigging up to drill, derrick building for No. 2, and locations made for Nos. 3 and 4.

The price of Urania crude was cut 10 cents by the Louisiana Oil Refining Corp., effective Monday, March 1, making the present quotation $1.40 a barrel. The reason given for the cut was that there was not a sufficient demand for the oil to justify a higher price.

Development of the Lisbon area in Union County, Arkansas, has attained large proportions and a typical oil field town has sprung up in the heart of production, 3 miles east of Lisbon and 7 miles west and north of El Dorado and on the main highway between the two towns. Westville is the name of the new town and it is located on the line of a survey made recently for the proposed extension of the El Dorado and Wesson Railroad.

Although practically an extension of the El Dorado Field, the Lisbon area is carried as a separate producing district and its average daily production now averages 1,215 bbls. a day. El Dorado production extends to within 2 or 3 miles of the Lisbon district and in the early days of the El Dorado development, wells drilled in territory immediately adjoining the new Lisbon production, made showings of oil but never became successful producers.

The best well yet completed in the Lisbon district was brought in by the Marine Oil Co. last week on the Slaughter lease in Section 9-17-16, the same section as that on which the discovery well of this territory was completed. The Marine well came in at 2,103 feet, flowing through 6-inch casing at the rate of 700 bbls. a day in 25 feet of broken sand. The oil tests 47 gravity and is posted at $1.85 a barrel.

Production in the heavy oil district in the Smackover Field continues falling, reports for the past week showing a decrease of 3,940 bbls. This was partially offset by increases in the Urania and Lisbon districts, the entire field showing a daily decline of 2,620 bbls. Production from North Louisiana and Arkansas averaged 213,415 bbls. a day, distributed as follows:

North Louisiana	
Bellevue	2,285
Caddo, light	9,010
Caddo, heavy	2,200
Cotton Valley	8,430
DeSoto and Red River	4,090
Elm Grove	700
Haynesville	10,360
Homer	5,810
Urania	6,585
	49,470
Arkansas	
Smackover, heavy	133,310
Smackover, light	18,710
El Dorado	7,600
Lisbon	1,215
Nevada	1,600
Stephens	1,510
	163,945
Total both fields	213,415
Decrease	2,620

Union County, Arkansas, Completions

Completions in the Union County area of the Smackover Field during the week numbered nine, with six producers adding 1,090 bbls. to the output of the field, two gas wells having an initial production of 55,000,000 feet, and one failure. Three of the producers were in the new Lisbon district, between El Dorado and Louann, and the remainder were in the Norphlet district.

In the Lisbon territory, the Marine Oil Co. completed No. 1 Slaughter, Section 9-17-16, flowing 700 bbls. in 20 feet of sand, at 2,103 feet; Roverger Oil Corp. completed No. 4 Dumas, Section 9-17-16, flowing through 2-inch tubing, 75 bbls. in 14 feet of sand, at 2,097 feet, and No. 1 Goodwin, Section 16-17-16, flowing 125 bbls. through 2-inch tubing, in 18 feet of sand, at 2,108 feet.

In the Norphlet district, Arkansas Fuel Oil Co. completed No. 8 Ferguson, Section 6-16-15, pumping 40 bbls. at 2,544 feet; J. S. Lyell's No. 1 fee, Section 3-16-15, made a 100-bbl. pumper at 2,376 feet, and The Texas Co. completed No. 11 Graves, Section 3-16-15, pumping 50 bbls. at 2,554 feet.

Two good gassers were completed in the Norphlet district, the Maxda Oil Corp.'s No. 4-H Lawton, Section 10-16-15, making 20,000,000 feet of gas with a spray of oil at 2,603 feet, and the Pure Oil Co.'s No. 8 Merriwether, Section 6-16-15, making 35,000,000 feet of dry gas at 2,642 feet.

Sunny Jim Oil Co. junked the hole in No. 1 Flenniken, Section 9-16-15, and abandoned it at 2,694 feet.

Ouachita County

Completions in the Ouachita County area numbered six, all producers, with an initial production of 470 bbls. of oil and 25,000,000 feet of gas.

In the north end of the Smackover Field, the Humble Oil & Refining Co. completed No. 8 F. A. & B. T. Laney, Section 32-15-15, pumping 280 bbls. at 2,413 feet, the best producer of the week. The Phillips Petroleum Co. completed No. 8 Johnson, Section 24-15-15, making a 50-bbl. pumper at 2,552 feet, and the Marine Oil Co. completed No. 12 Snyder, Section 34-15-15, pumping 100 bbls. at 2,366 feet.

In the Louann district, A. Meek completed No. 2 LaGrone, Section 36-15-17, pumping 20 bbls. at 2,308 feet, and the Ohio Oil Co. completed No. 18 Cramer, Section 27-15-16, pumping 20 bbls. at 2,289 feet.

In the Norphlet district, Sid Umsted completed No. 3 fee, Section 4-16-15, making 25,000,000 feet of dry gas at 2,510 feet.

Urania District

In the Urania district, LaSalle Parish, 11 producers added 1,270 bbls. to the output of the field, and three failures were abandoned. With the exception of one pumper, the wells all came in flowing and range in size from 10 to 350 bbls.

Dixie Oil Co. completed No. 3 Urania, Section 24-10-1e, flowing 10 bbls. in 4 inches of sand, at 1,577 feet.

Explorers Oil Corp.'s No. 2 Garahan, Section 26-10-1e, came in flowing 10 bbls. in 8 feet of sand, at 1,557 feet.

Galloway and others completed No. 1 Pendarvis, Section 24-10-1e, pumping 50 bbls. in 5 feet of sand, at 1,562 feet.

Hamilton and others completed No. 2 Bennett, Section 25-10-1e, flowing 150 bbls. in 6 feet of sand, at 1,540 feet.

Hunt, McCurry and Zoder completed No. 1 Urania, Section 7-10-2e, flowing 350 bbls. in 2 feet of sand at 1,520 feet.

Louisiana Oil Refining Corp. completed No. 3 Bass, Section 24-10-1e, flowing 75 bbls. in 2 feet of sand, at 2,538 feet; junked the hole and abandoned No. 13-B Tremont, Section 25-10-1e, at 1,530 feet, and in same section, completed No. 16-B Tremont, flowing 250 bbls. in 3 feet of sand, at 1,539 feet, and No. 25-B, flowing 200 bbls. in 8 feet of sand, at 1,524 feet.

Natural Gas & Fuel Corp. completed No. 5 Sarah Tullos, Section 25-10-1e, flowing 50 bbls. in 4 feet of sand, at 1,535 feet and No. 6, same section, flowing 75 bbls. in 6 feet of sand, at 1,522 feet.

Standard Drilling Co. got salt water and abandoned No. 1 Roark, Section 26-10-1e, at 1,573 feet.

O. F. Whittaker completed No. 1 King, Section 36-10-1e, flowing 50 bbls. in 2½ feet of sand, at 1,538 feet.

Caddo Parish

Another shallow gas well was completed by D. C. Richardson on the Youree-Randolph lease in Section 23-20-15, No. 4, making 200,000 feet of gas at 803 feet. This is the second shallow gasser on the lease, with No. 2 arranging to pump and a deep test being made in No. 3. The development of this lease extended the Pine Island Field nearly 3 miles east and south of previous production. No. 2 came in making 500 bbls., sanded up and will be cleaned out with cable tools, estimated good for 300 bbls. steady production.

Dixie Oil Co. completed No. 72 Robertshaw, Section 14-21-15, pumping 15 bbls. at 1,700 feet.

Wildcats

Bossier Parish—Corbet and others abandoned their test on the Murff lease in Section 18-17-11, 10 miles east of Shreveport, at 915 feet.

Simms Oil Co.'s No. 1 C. D. Sandidge, Section 9-18-11, 10 miles east and north

News of Venezuela Fields

By Special Correspondent

MARACARBO, Venezuela, Feb. 27.—According to local statistics, Venezuela produced 20,260,000 bbls. of oil in 1925, of which, 17,000,000 bbls. were exported, the Caribbean and Venezuela Oil Concessions, (the Dutch Shell interest) producing the larger part. It is a conservative estimate that the total production for 1926 will more than double that of 1925. However, this should not alarm producers and marketers in the States—for the reason that Venezuela's entire production is in the Maricaibo Basin, and can be reached only by tankers entering Maracaibo Lake. There is a sand bar at the entrance of the lake, with only 11½ feet of water at high tide; this makes it necessary to take the oil out in small boats to terminals outside the lake and transfer it to larger tankers. It was owing to the limited number of small tankers available that there was not more oil exported in 1925.

Transportation is the greatest problem the operators have to face, and as the fleet of small tankers, operating in the lake, will be increased very little; the total export for 1926 should not exceed 25,000,000 bbls.

The Venezuela Gulf Oil Co. is making preparations to meet the emergency of overproduction by erecting 10 55,000-bbl. storage tanks, and other producing companies will be forced to take the same course.

The daily production is as follows:

Caribbean Petroleum Co. (Mene Granda Field) 23,000 bbls.

Venezuela Oil Concession (La Rosa) 36,000 bbls.

Venezuela Oil Concessions (La Concepcion 3,600 bbls.

Venezuela Oil Concession (La Paz) 2,400 bbls.

British Controlled Oilfields (El Mene) 6,000 bbls.

Venezuela Gulf Oil Co. (La Rosa) 15,000 bbls.

Lago Petroleum Corp. (La Rosa) 23,600 bbls.

Total daily production of 109,600 bbls.

All of the oil produced is of 19½ gravity, with the exception of the El Mene and La Concepcion which is 42 gravity.

The Caribbean Co. has contracted for the entire production of the British Controlled Oil Fields, Ltd., and this, with the Venezuela Oil Concession production, and its own is put through its refineries at Curacao, while the Venezuela Gulf Co.'s production goes to the Gulf refinery at Port Arthur. The Lago Petroleum Corp.'s production goes to New Orleans.

The following companies are registered, and have offices in Venezuela, and it is rumored others will come in the near future:

The Caribbean Petroleum Co. (Dutch Shell interest) Maracaibo.

Venezuela Oil Concession Co. (Dutch Shell interest) Maracaibo.

The Colon Development Co. (Dutch Shell interest) Maracaibo.

Venezuela Sun, Ltd., Maracaibo.

Lago Petroleum Corp. (Standard of Indiana) Maracaibo.

Perija Exploration Co., Maracaibo.

Orinoco Oil Co. (Pure Oil) Maracaibo.

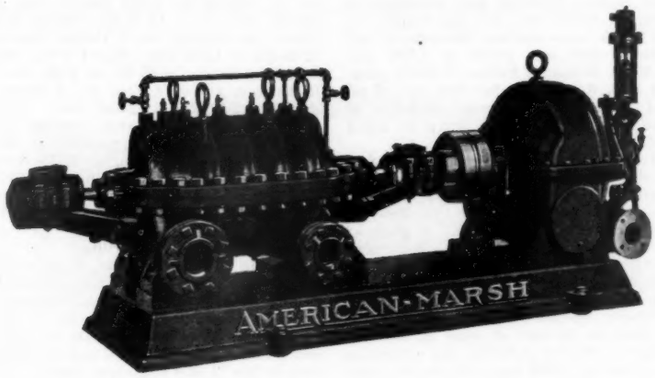
New England Oil Corp., Maracaibo.

California Petroleum Exploration Co. (Standard Oil of California) Maracaibo.

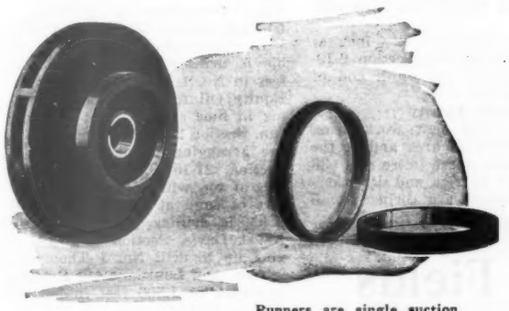
Richmond Petroleum Co. of Venezuela (Standard Oil of California) Maracaibo.

British Controlled Oil Fields, Ltd., Maracaibo.

(Continued on Page 106)



High speed pumps at last



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Wearing rings fitted to the suction side of each runner.

Long life with high speed—this is the happy combination we have obtained with the American-Marsh multi-stage split case Centrifugal Pump.

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507 State National Bank Bldg.,
Houston, Texas

820 Staley Bldg.,
Wichita Falls, Texas

of Shreveport, was abandoned at 1,206 feet.

Miller County, Arkansas—Humble Oil & Refining Co. abandoned No. 1 Cranks, Section 5-17-25, 20 miles southeast of Texarkana, at 1,570 feet.

Nevada County—Humble Oil & Refining Co. tested dry and abandoned No. 1 T. W. Calloway, Section 10-15-22, at 1,317 feet. The test is 10 miles west of the Stephens Field.

Union County, Arkansas, Drilling

Development of the Lisbon district, between Louann and El Dorado, is proving the drawing card in Arkansas drilling operations, and there is steadily increasing activity in this locality. Coats & Sowell are rigging up to drill No. 1 Dumas, Section 10-17-16; El Dorado Union Oil Co., drilling No. 1 Ennis, Section 23-17-16, at 1,950 feet; Foster and others have derrick up for No. 1 Dumas, Section 9-17-16; Kersker and others have derrick up for No. 1 Harrell, Section 15-17-16, and the Marine Oil Co. has three more wells rigging up to drill on the Slaughter lease in Section 9-17-16.

Miller & Cottingham are rigging up to drill No. 1 Slaughter in Section 9-17-16; Natural Gas & Producing Co. has derricks up for Nos. 1 and 2 Andress, Section 16-17-16; Oil Fields Corp. is rigging up to drill No. 1 Dumas, Section 10-17-16; Pure Oil Co. is rigging up to drill No. 1 Dumas, Section 9-17-16; Reynolds & Marr have derrick up for No. 1 Mooty, Section 15-17-16, and Rovenger Oil Corp. is rigging up to drill No. 1-B Goodwin, Section 16-17-16.

Wingfield and others are drilling at 350 feet in No. 1 Cruse, Section 27-17-16, derrick up for No. 2 Dumas, Section 9-17-16, and set 10-inch at 60 feet in No. 2 Slaughter, Section 9-17-16. Simms Oil Co. set 6-inch at 2,060 feet in No. 2-A Dumas, Section 9-17-16, and is rigging up to drill No. 3-A, same section; Rovenger Oil Corp. has 300 feet of fluid in 30 feet of broken sand, and running sand pump at 2,157 feet in No. 1 Harrell, Section 15-17-16; J. D. Reynolds has a fishing job at 1,460 feet in No. 3 Dumas, same section.

Miles, trustee, is arranging to set a short string of 4½-inch casing at 2,928 feet in his deep test on the Miller lease, Section 35-17-16, total depth 2,940 feet.

Farther north and in the older parts of the field, C. H. Allison is down 2,825 feet in No. 1-A Fitzgerald, Section 17-18-15; G. J. Childs has derrick up for No. 2 fee, Section 8-16-16; Clark & Melat are drilling at 2,375 feet in No. 1-A Saxon, Section 4-16-16; Sam Cook is bailing to test 8 feet of sand at 2,595 feet in No. 7 Tatum, Section 7-16-15, standing with 200 feet of fluid in the hole, 60 per cent salt water.

Crawford & Sebastian are drilling at 3,185 feet in their deep test on the James land in Section 6-16-15; Eason and others have derrick up for No. 7 Murphy, Section 15-16-15; Estes and others set 4½-inch at 2,612 feet in No. 1 Murphy, and at 2,606 feet in No. 2, Section 15-16-15; Federal Petroleum Co. is reaming to 2,608 feet in No. 7-B Lawton, Section 10-16-15, and drilling at 2,410 feet in No. 2-B Wells, Section 15-16-15; Ferguson Drilling Co. lost the hole at 2,210 feet in No. 2 Howard, Section 7-16-16, and is rigging up to drill second hole.

Gulf Co. Operations

Gulf Refining Co. bailed 9 feet of broken sand and tested 2,000 feet of salt water at 2,617 feet, in No. 2 Fagg, Section 7-16-16, and will drill deeper; has 1,600 feet of salt water and 200 feet of oil in 5 feet of sand, at 2,695 feet in No. 1 McElroy, Section 4-16-16, and arranging to pump; bailing to test No. 2 McMullen, Section 1-16-16, in 7 feet of sand, at 2,567 feet. Hickman and others are coring No. 4 Hays, Section 21-16-15, at 2,520 feet; Humble Oil & Refining Co. is drilling No. 2-B Lawton, Section 7-16-15, at 1,065 feet; and A. L. Hunt is drilling No. 1 Swilley, Section 28-16-16, at 1,200 feet.

E. M. Jones is arranging to set 8-inch at 2,672 feet in No. 9 Murphy, Section 17-16-15; Kampeter and others set 12½-inch at 203 feet in No. 1 Townes, Section 34-19-11; Keen & Woolf are drilling No. 2 Bradford, Section 7-16-15, at 2,350 feet; W. R. Keever has 750 feet of fluid in 2 feet of sand in No. 3 Sanford, Section 17-16-15, and arranging to pump at 2,673 feet, and has derrick up for No. 5, same section; Kennebrew and others tested salt water at 2,550 feet in No. 1 Williams, Section 3-16-15, plugged back 6 feet, and has 800 feet of oil and 200 feet of salt water in 2 feet of sand, and arranging to pump at 2,554 feet.

Laurel Oil & Gas Co. has 1,700 feet of oil in 9 feet of sand in No. 5 Tatum, Section 7-16-15, and arranging to pump at 2,560 feet; Louisiana Oil Refining Corp. tested salt water wtih a show of oil and gas at 2,474 feet in No. 4 Hodges, Section 7-16-15, and plugging back to test at 2,473 feet; Lion Oil & Refining Co. has derricks up for Nos. 1 and 2 Goodwin, Section 16-17-16, has 250 feet of fluid in 15 feet of sand in No. 9-C Murphy, Section 8-16-15, and arranging to pump at 2,696 feet, and set 4½-inch casing at 2,670 feet in No. 3 Wilson, Section 17-16-15; Little Fay Oil Co. set 6-inch at 2,618 feet in No. 3 Burns, same section.

Magnolia Petroleum Co. has derrick up for No. 3 Hessler, Section 8-16-16; set 8-inch at 2,570 feet in No. 4 Hatfield, Section 7-16-15, and has 400 feet of fluid in 2 feet of sand in No. 1 Werner Co., Section 1-16-17, and arranging to pump at 2,260 feet. Marr & Woods set 6-inch at 2,672 feet in No. 3 Murphy, Section 17-16-15; Mazda Oil Co. is arranging to deepen No. 3-H Lawton, Section 10-16-15, from 2,425 feet; Moco Oil Corp. is drilling No. 6 Flenniken, Section 5-16-15, at 2,355 feet; Murdock and others are bailing to test 6 feet of sand at 2,695 feet in No. 7 Vestal, Section 17-16-15, and plugged back 3 feet in No. 8, and have 800 feet of fluid in 16 feet of sand and setting liner.

Natural Gas & Petroleum Co. is setting 4½-inch at 2,760 feet in No. 5-A Harrell, Section 17-16-15; Leo P. Puckrul is drilling at 2,025 feet in No. 2 Smith, Section 17-16-15; Owens and others are drilling No. 2 Parks, Section 32-16-16, at 1,500 feet; Pure Oil Co., No. 8 Friend, Section 6-16-15, at 2,550 feet; Richardson and others, No. 1 Meeks, Section 22-19-15, at 2,680 feet; Sam Richardson, No. 5 Lawton, Section 10-16-15, at 2,425 feet; Simms Oil Co., No. 7 Cook, Section 16-16-15, at 2,575 feet; Sinclair Oil Co., No. 8 Flannagan, Section 6-16-15, at 1,550 feet; and Standard Oil Co., No. 4 Burns, Section 31-17-15, at 2,200 feet.

Sun Oil Co. Drilling

Sun Oil Co. has 200 feet of oil in 25 feet of broken sand in No. 7 Hatfield, Section 6-16-15, and arranging to pump at 2,570 feet, and is drilling No. 2 McClannahan, Section 1-16-16, at 2,585 feet. The Texas Co. set 6-inch at 2,560 feet in No. 2 McClannahan, Section 12-16-16; Thurman and others are drilling No. 2 Houston, Section 12-16-16, at 1,975 feet; Unity Petroleum Co. is arranging to pump No. 7 Roper, Section 3-16-15, and to deepen No. 2 Lawton, Section 10-16-15, and Woodley Petroleum Co. is rigging up to drill No. 4 Bilyew, Section 8-16-15.

Bonderant and others are drilling in rock at 1,700 feet in a test on the Garner lease, Section 8-18-12, 12 miles east of El Dorado.

Morefield and others set 12½-inch at 90 feet in No. 1 Edwards, Section 2-19-18, 15 miles west of the south end of the El Dorado Field.

Ouachita County

There is very little new work being started in the Ouachita area and at the close of the week there were but 38 drilling wells and 27 rigs and derricks.

Calcord and others are coring No. 5 Laney, Section 31-15-15, at 2,385 feet; Humble Oil & Refining Co. is drilling No. 11-B Arnold, Section 26-15-16, at 2,250 feet, bailing No. 9 Flannigan, Section 6-16-15, with 800 feet of oil in 22 feet of sand at 2,580 feet, set 6-inch at 2,400 feet in No. 3 F. A. & B. T. Laney, Section 31-15-15, and has 400 feet of fluid in 2 feet of sand in No. 4 H. Laney, Section 32-15-15, and arranging to pump at 2,565 feet. Imperial Oil & Gas Producing Co. is coring at 2,282 feet No. 7-A McClannahan, Section 6-16-15.

Magnolia Petroleum Co. is rigging up to drill No. 12 J. Goodwin, Section 5-16-15, and drilling No. 3 Shirey fee, Section 30-15-16, at 450 feet; Natural Gas & Petroleum Co. is drilling No. 5-A Hill, Section 5-16-15, at 2,550 feet; Ohio Oil Co. is drilling No. 7 Goodwin, Section 29-15-16, at 1,015 feet; Roxana Petroleum Corp. set 6-inch at 2,590 feet in No. 4-A Berg, Section 28-15-15; Simms Oil Co. set 6-inch at 2,595 feet in No. 5 J. E. Murphy, Section 29-15-15, and set 12½-inch at 457 feet in No. 9 Reynolds, Section 32-15-15.

Sinclair Oil Co. is drilling No. 9 Flannigan, Section 6-16-15, at 1,100 feet; Southern Crude Oil Purchasing Co. is drilling No. 6 Joyce, Section 29-15-15, at 2,480 feet, and set 6-inch at 2,352 feet in No. 4 Murphy, Section 4-16-15; The Texas Co. is drilling No. 11 Johnson, Section 3-16-15, at 2,440 feet, and Unity Petroleum Co. is drilling No. 8 Umsted, Section 33-15-15, at 1,900 feet.

In the Stephens district, J. E. Crosbie is drilling plug in 6-inch at 2,180 feet in No. 1 Wallace, Section 27-15-19; Equity Oil & Development Co. is drilling in lime at 1,965 feet in No. 1 Morgan, Section 27-15-19; Gossett and others are arranging to pump No. 1 Gosden, Section 21-15-19, standing within 150 feet of top with oil and salt water in 3 feet of sand at 1,460 feet; J. E. Reynolds is drilling plug at 1,515 feet in No. 1 Davis, Section 22-15-19, and rigging up to drill No. 1 Thompson, same section, and Louisiana Oil Refining Corp. is coring at 1,500 feet in No. 1 Green, Section 22-15-19.

LaSalle Parish

Atlantic Oil Producing Co. is waiting on standard rig at 1,525 feet in No. 1 Tullos, Section 26-10-1e; set 6-inch at 1,494 feet in No. 4 Tullos, same section; and, is rigging up to drill No. 5 Tullos, Section 23-21-1e. Ayers and others are drilling in gumbo at 2,150 feet in No. 2 Urania, Section 13-10-1e.

B. & B. Drilling Co. has derrick up for No. 1 Urania, Section 7-10-2e, and Bailey and others have derrick up for No. 1 Renfro, Section 26-10-1e. Beckman and others are bailing to test in 6 feet of sand at 1,531 feet in No. 6 Urania, Section 25-10-1e, and set 6-inch at 1,523 feet in No. 7 Urania, Section 25-10-1e. W. H. Buckhart has shut down and is waiting order at 700 feet in No. 1 Smith, Section 26-10-1e, half way between Rochelle and Urania.

O. W. Clark, trustee, set 10-inch at 100 feet in No. 1 Bass, Section 25-10-1e, is rigging up to drill No. 1 Gaharon, Section 26-10-1e, set 10-inch at 102 feet, down 1,528 feet in No. 1 Russell, same section; waiting on standard rig at 1,572 feet in No. 1 Smith, Section 26-10-1e, and has derrick up for No. 2 Russell, Section 23-10-1e.

Cook Drilling Co. tested 8-foot sand at 1,538 feet in No. 1 Tullos, Section 25-10-1e, and Cox and others set 6-inch at 1,482 feet in No. 1 Hebert, Section 25-10-1e, and has derrick up for No. 2 Hebert, same section.

Explorers Oil Corp. set 6-inch at 1,485 feet in No. 1 Tullos, Section 23-10-1e, and Ferguson and others are arranging to test 6 feet of sand at 1,548 feet in No. 1 Jarrell, Section 26-10-1e.

Galloway and others set 10-inch at 106 feet in No. 2 Pendarvie, Section 23-10-1e, and have derrick up for No. 3 Pendarvie, same section. Greenwald and others are waiting on standard rig at 1,552 feet in No. 1 Sayers, Section 26-10-1e. Hamilton and others are rigging up to drill No. 3 Bennett, Section 25-10-1e, and Hamilton and Musick are rig-

(Continued on Page 110)

News of Mexican Fields

By George B'ardone
Mexican Bureau, The Oil and Gas Journal

TAMPICO, Mex., Mar. 5.—Both north and south fields in Mexico have been well represented by pay completions the past 10 days, when a total of some 34 completions can be recorded, of which 11 finished with production. The new production secured totals 41,450 bbls., of which 11,000 bbls. belongs to the south fields division and 30,450 bbls. is added to the northern fields.

The best well of the series belongs possibly to Mexican Eagle Oil Co., in the south fields, No. 32 Cerro Veijo coming in at a sub-sea level depth of 1,954 feet. It was rated for a potential head of 20,000 bbls., but it is actually being permitted to flow 8,500 bbls., at which figure it is rated above. The other south fields producer belongs to Huasteca Petroleum Co., and is south of Cerro Veijo in the Huasteca's Tierra Blanca holdings. This well is rated at 2,500 bbls. at a sub-sea level depth of 1,921 feet. Both wells are comparatively shallow for their respective locations. South fields scored one failure in Mexican Gulf Oil Co.'s No. 55 Toteco, which is a dry hole at 2,075 feet.

Northern Fields

The banner well of the northern fields was National Lines' No. 31 Chapacao, in its right-of-way there. This well was finished at 1,781 feet, and is rated for a potential head of 15,000 bbls. Mexican Petroleum Co., in its Ebano district, principally the Chapacao sector there, simply wholesaled completions as the week ended. Its No. 41 Chapacao is a 2,500-bbl. well at 1,310 feet; No. 44 is rated good for 8,000 bbls. at 1,710 feet; No. 54, for 2,000 bbls. at 1,660 feet. In the Chijol sector of the Ebano, Mexican Pete's No. 39 is good for 1,000 bbls. at 1,929 feet. In the La Dicha it has a 300-bbl. well at 1,950 feet. In its San Pedro it has 1,500 bbls. at 1,970 feet; and in No. 6 Midway it has, possibly, a small producer at 2,272 feet, but its production has not been tested.

In the Marland Field, Cia. Pet. Franco Espanola has a 150-bbl. well in No. 37 Limon at 2,055 feet.

The Failures

The list of failures (northern fields) is extensive. Consider the Panuco district: Empire Gas & Fuel Co.'s No. 4-B, Lot 11 W. Maguabes, is a failure at 1,560 feet, although it looked as if it might develop into something for a while. Mexican Sinclair Petroleum Corp.'s Nos. 9 and 10, Lot 1 Camolote, are both dusters at 2,020 and 1,985 feet, respectively, while No. 20 Gutierrez drilled into salt water at 2,049 feet. Sol Oil Co.'s No. 1 Etienne, a Federal zone well, drilled into salt water at 2,250 feet. Transcontinental Petroleum Co. had two bad ones in the Tanchicuin sector, No. 22, Lot 1, finishing a dry hole at 2,305 feet, while No. 8, Lot 14, drilled into salt water at 1,935 feet. U. S. Mexican Banana Co.'s No. 1 Herradura finished a dry hole at 2,475 feet. Cia. Pet. Chileno Mexicana's No. 7 Tampuche developed salt water at 2,335 feet. East Coast Oil Co.'s Nos. 228 and 229 Halcon are both failures at 1,985 and 2,075 feet respectively.

In the Ebano district, Mexican Petroleum Co.'s No. 55 Chapacao is a dry hole at 2,200 feet. Its No. 10 La Pez, the original commercial pool of the republic, developed salt water at 2,420 feet; and Nos. 13 and 14 San Pedro finished dry holes at 2,350 and 2,303 feet respectively. National Lines' No. 28 Chapacao is dry at 2,500 feet.

The other districts can be lumped as follows: Transcontinental Petroleum Co.'s No. 251, Lot 4 Cacalilao, is a duster at 2,500 feet; and No. 46 Paciencia, just north, is a failure at 2,250 feet. In Topila district, Theodore Hick's No. 1, Lot 6 Paciencia de Aguacate, finished dry at 2,395 feet; and National Lines' No. 28 Tamboyoche drilled into salt water at 2,500 feet. In the Limon, Cia. Pet. Franco Espanola scored a dry hole at 2,200 feet in No. 43; and National Lines'

(Continued on Page 109)

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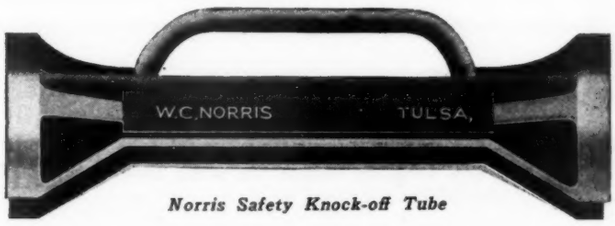

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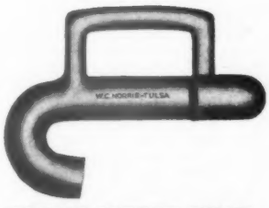

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Made of drop forged steel with single and double hook design. Universally used throughout the oil fields, it has now been made safe by adding the handle shown above.

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Made safer and stronger by the addition of the handle at top and by welding in the center. Eliminates the possibility of mangled hands and provides an absolutely dependable hook.

California Field Operations

By L. P. Stockman

Long Beach northwest extension completes 19 wells, producing 5,688 bbls. Aiken and Delaney's No. 1 Cerritos makes 1,380 bbls. Peak of development passed, but wells nearing completion will keep up output for some time. Increased activity in San Joaquin Valley-Midway Sunset area.

LOS ANGELES, Calif., March 6.—Operators in the northwest extension of the Long Beach F eld are again hitting on all six, following a temporary delay due to rather unfavorable climatic conditions, and finished up the current week with 19 new wells to their credit for an aggregate initial daily production of 5,688 bbls. The United Oil Co. headed the completion l.st with three new producers and one recompletion, although their combined output was not as large as Aiken & Delaney's No. 1 Cerritos, which came in flowing 1,380 bbls. of clean 22.6 gravity oil from 4,437 feet. This well, flowing through a 1-inch bean under a pressure of 560 pounds, was finished with a 4¾-inch liner carry ng 185 feet of shop perforated and 3,950 feet of 2½-inch tubing. The largest of the United's quartet was No. 1 Stakemiller, drilled to 4,482 feet and finished with an 8⅝-inch liner, 190 feet shop perforated. Although the output from this well, 402 bbls. of 19.4 gravity oil daily, is cutting approximately 25 per cent water, it seems to be cleaning up. No. 1 Taylor, making 205 bbls. of 19.7 gravity oil daily, is also cutting rather high, the water and sand during the first 24 hours being 10 per cent of the total production. This well, carried down to 4,457 feet and finished with a 6¼-inch liner, 185 feet perforated, is flow.ng through a ½-inch bean under a pressure of 350 pounds. No. 3 Lineberger was the company's smallest producer, the maximum pumping from 4,376 feet beeing 60 bbls. of 21.8 gravity oil which showed a cut of 2 per cent. The United's No. 1 Haas, the recompletion listed this week, is in the older section of the field. It was returned to production after b e i n g redrilled and deepened to 5,253 feet and finished with a 4½-inch oil string carrying 1,820 feet of shop perforated. It is flowing through a ½-inch bean under a pressure of 350 pounds and tanked 220 bbls. of 29.8 gravity oil during the first 24-hour test.

New Producers

A. J. Delaney and the McKeon Oil Co. each finished two new producers during the week and, while the latter had the edge from a production standpoint, the former's wells were yielding the cleaner oil. The McKeon Oil Co.'s two new completions were No. 4 Cerritos, drilled to 4,454 feet, and No. 5 Cerritos, carried down to 4,455 feet, both holes being finished with 6¼-inch liners. The former started off flowing 520 bbls. of 21.8 gravity oil cutting approximately 5 per cent, while the latter was swabbed in doing 390 bbls. of 20.2 gravity oil cutting 15 per cent. Art Delaney's No. 7 Cerritos, drilled to 4,402 feet, and his No. 11, carried down to 4,425 feet, were both finished with 4¾-inch liners. The former is producing 150 bbls. of unusually clean 22.4 gravity oil, while the latter is making 210 bbls. of 22.4 gravity oil cutting less than 1 per cent. Delaney is running 10 strings of tools in the extension and will probably start another well or two within the next week, as four new rigs have been erected.

Featherstone & Preston gave their No. 14 Cerritos a pumping test from 4,455 feet after finishing the hole with a 6¼-inch liner, but the output, 85 bbls. daily, is cutting approximately 50 per cent water. This will necesaitate further work on the hole and it is thought it will be plugged back, as the excessive cut looks like bottom water. The W. M. C. Syndicate fin shed its second producer in the northwest extension, No. 2 Cerritos, and added 280 bbls. of clean 21.9 gravity oil to its daily production. The hole was carried down to 4,420 feet and finished with a 4¾-inch liner, 140 feet shop perforated. George F. Getty's No. 11 Cerritos, flowing through a ½-inch bean under a pressure of 500 pounds, was good for 360 bbls. of clean 22.1 gravity oil daily from 4,397 feet. Getty still has three drillers in this area, Nos. 12, 13 and 14, all showing oil and gas and look good for production within 2 or 3 weeks.

The Julian Petroleum failed to secure a natural flow in No. 1 Aidline and it was necessary to put it on the beam at 4,461 feet, after finishing the hole with a 6¼-inch liner. The initial pumping was 190 bbls. of 21.1 gravity oil cutting 7 per cent. No. 1 Cerritos of the Ga'lagher Trust, finished at 4,430 feet, was also a 190-bbl. well but the output, testing 22.6 degrees, was exceptionally clean. It is flowing through a ¾-inch bean under a pressure of 370 pounds. The Rep tto Hills Oil Co. finished a 200-bbl. pumper when i.s No. 4 Cerritos was put on the beam at 4,446 feet, the oil testing 20.9 degrees and showing a cut of 10 per cent. The California Petroleum finished another of its drillers in the northwest extension, No. 1 Hilton, but the outcome was somewhat disappointing as a tank gauge taken at the conc'usion of the first 24-hour test showed the we'l to be only a 100-bbl. pumper. The oil, which is coming from 4,429 fe.t, is quite clean and tests 22.6 degrees.

Starts Second Well

W. I. Lake lost very little time in starting work on No. 2 Cerritos following his initial completion early in the week. Lake's new well, No. 1 Cerritos, dri'led to 4,461 fe.t and finished with a 4¾-inch liner, came in flowing 477 bbls. of c'ean 22.7 gravity oil. The Rainbow Petroleum finished a comparatively small pumper when No. 7 Cerritos was put on the beam at 4,226 feet. It started off pumping 99 bbls. of 22.1 gravity oil cutting less than 1 per cent. W. R. Ramsey's No. 7-B Municipal, in the older section, was drilled to 4,604 feet and finished with a 6¼-inch oil string carrying 470 feet of 60-mesh screen. It was put on the beam and is pumping 170 bbls. of 22.6 gravity oil dai'y.

At the close of the week there were 82 wells dri'ling below the 4,000-foot level, compared with 79 at the close of the preceding week, and 22 rotating ahead between 3,000 and 4,000 feet, five more than checked at the close of the corresponding period. There are 27 holes above the 3,000-foot level, exactly the same as the previous week. The peak of development work has already been passed in the northwest extension but completions will, of course, continue coming in at the rate of 8 or 10 a week for some little time, due to cumulative drilling of the past 60 days. A superficial check indicates at least 10 new producers can be expected in during the coming week, if their present status is any criterion as to what may be expected. Four wells, F. Gillespie's No. 1 Cerritos, H. E. Adams' No. 1 Cerritos, Tyron & Brain's No. 1 Cerritos and Weaver Brothers' No. 2 Cerritos, are being prepared for production and will be put on the beam within a few days. Additional wells belonging to J. M. Cooper, Fox & O'Neil', George W. Johnston, Lewis & Glass, McGinnis & Miller, W. H. Playter, Walter P. Temple and the Davis & McMi'lan Oil Co. are scheduled to be swabbed in before the next 7-day period draws to a close.

Rosecrans

There were no new wells completed in the Rosecrans Field, although there were two recompletions finished. The two rejuvenated wells were No. 1 Colby of the California Petroleum, and No. 6 Athens of the Julian Petroleum. The former was put on the beam after being plugged back to 4,450 feet and pumped 60 bbls. of 35.4 gravity oil on its initial test. No. 6 Athens of the J u l i a n Petroleum was redrilled and deepened to 5,270 feet and, while it showed an initial production of 240 bbls., a little over 40 per cent was water. The Union is making preparations to bring in No. 14 Howard Park from 5,334 feet and this well, together with No. 6 Rosecrans, will be swabbed within a day or two. The company should also be in a position soon to complete Nos. 19, 20, 22 and 26 on the Howard Park property, in which the Barnsdall has an interest.

Inglewood

The completion and reduction of the drilling programs of the various companies operating at Inglewood during the past few months has naturally resulted in a smaller number of completions and operations during the past week were not productive of a single new well. The Standard, Pacific and Associated are each working on one or two drilling projects but, with these exceptions, there is very little new work being done. The Standard's No. 6 on Los Angeles Investment Lease No. 2, a deep test, was logged early this week at 5,618 feet and, because of the unusual depth and absence of upper showings, the hole has all the earmarks of a duster. An abandonment would not be surprising as it has always been considered a rather long shot because of its position on the structure. The California Petroleum is contemplating pulling out of No. 4 Smith at 3,027 feet and it is believed an official abandonment notice will be forthcoming shortly.

Torrance

There were no new wells finished in either the Dominguez, Torrance or Huntington Beach Fields and it does not look as though there will be any additions during the coming week. Drilling operations in these three areas has been at a low ebb and no increase is expected under normal conditions. The Union and Shell are each drilling two new wells at Dominguez, while the Chanslor-Canfield Midway Co. and the Shell each have three drilling projects at Torrance. The Standard is by far the largest operator at Huntington Beach and, although most of its new work is on Lease B, there are two drillers on the Bolsa Chica property and another on the Newland. Unless drilling restrictions are lifted in the town lot area, no further work is anticipated.

The Pan American spudded in No. 1 Broderick at Rideout Heights and made 580 feet of hole before the close of the week and, although the Petroleum Securities failed to start actual drilling operations, preliminary work has just about been completed and the bit should start its downward journey within a day or so. These two new wells are scheduled to test out the deep horizon picked up by the O'Donnell Refining Co. a year ago and later tested out by No. 1 Jesurum of the Pan American, which at one time pumped around 100 bbls. a day for a short period. It is thought No. 1 Broderick of the Pan American and No. 1 Rideout Heights of the Petroleum Securities are somewhat higher up on the structure than No. 1 Jesurum and have a much better chance of developing commercial production.

The McGinley Oil Co. is making preparations to put its No. 24, in the Montebello Field on production and, if nothing unforeseen develops, it should be listed for completion early next week. Rotary equipment is being rigged up for a new hole, No. 3-A, which will probably be spudded in upon completion of work in No. 24. Neither the St. Helens Petroleum nor the Standard Oil Co. got under way with their projected work, but the former's No. 12 Monterey and No. 5 P. & B. and the latter's No. 17 Temple, No. 1 Harvey and No. 3 Howard Smith should be spudded in soon.

Fullerton

The Brea Canyon Oil Co. finished its No. 27 at Fullerton but it was not actually put on a production test as it was found necessary to put in a 50-foot plug at 4,450 feet which occasioned unexpected delay. The Birch Oil Co. reports some fairly good looking showings in its No. 2-A, at 4,910 feet but it will take another 100 feet of hole before anything definite can be ascertained. The Union is drilling ahead slowly in its Fullerton wildcat, No. 1 Olinda, and coring quite frequently in order that its geological staff may follow the underground structure. This hole

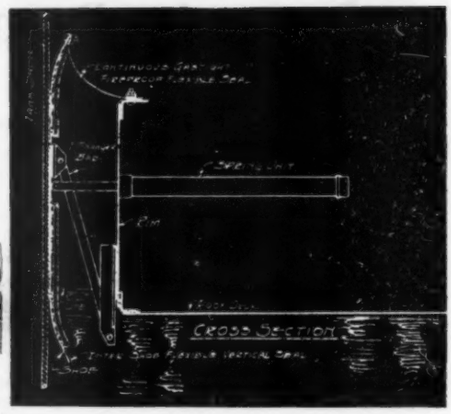
(Continued on Page 108)

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This Week	Daily Average	Total Last Week	Daily Average	This Year To Date	Same Time Last Year
Crude oil	290,618	41,517	343,928	49,133	2,044,723	2,802,829
Fuel and gas oil	212,562	30,366	198,297	28,328	1,411,302	81,539
Gasoline	80,974	11,568	.....	.....	813,529	408,408
Tops	.....	.....	.....	.....	74,619	.....
Coastwise—						
Crude oil	530,891	75,841	679,533	97,078	3,508,864	4,616,079
Fuel and gas oil	199,958	28,565	126,417	18,060	1,137,612	1,962,655
Gasoline	79,724	11,389	97,608	13,944	1,084,249	796,358
Kerosene	11,150	1,592	20,811	2,973	59,505	29,110
Tops	.....	.....	.....	.....	97,299	41,010
Exports—						
Crude oil	280,190	40,027	51,097	7,300	553,735	329,653
Fuel and gas oil	360,403	51,486	419,938	59,991	2,730,803	2,043,041
Gasoline	81,623	11,660	.....	.....	603,445	555,205
Tops	.....	.....	.....	.....	.....	89,932
Kerosene	108,654	15,522	.....	.....	420,445	255,039

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Crude oil	.....	.....	.....	.....	.....	.....
Fuel and gas oil	.....	.....	.....	.....	.....	.....
Gasoline	.....	.....	97,619	13,946	341,606	234,527
Tops	.....	.....	.....	.....	.....	553,285
Kerosene	.....	.....	.....	.....	.....	.....
Lubricants	.....	.....	.....	.....	82,025	81,939
Coastwise—						
Fuel and gas oil	64,883	9,269	.....	.....	552,339	424,376
Gasoline	107,104	15,300	17,142	2,449	520,211	443,232
Kerosene	.....	.....	.....	.....	61,002	62,404
Exports—						
Fuel and gas oil	73,658	10,523	.....	.....	546,066	234,980
Gasoline	112,974	16,139	68,302	9,757	181,276	110,695
Kerosene	.....	.....	.....	.....	332,688	38,480
Lubricants	.....	.....	.....	.....	.....	48,650



Cross section of the seal of the Wiggins Roof. The shoe is held tightly against the side of the tank; in welded rundown tanks there are no projections on the side of the tank to prevent an absolute closure.

Welded Rundown Tanks

Sealed with the Wiggins Roof

HORTON rundown tanks built for Wiggins roofs can be welded with all seams vertical. There are no horizontal seams and no rivets projecting on the inside of the shell. The tank shell is smooth on the inside. This means that the roof shoes can fit the inside of the tank with a smooth, sliding fit over the entire 22-inch shoe as shown in the drawing above.

The close-fitting Wiggins roof holds its level on the oil—no air can possibly accumulate between the oil and the roof. Air is essential for evaporation. No air—no evaporation.

A Wiggins roof with gas-tight seal built into a Horton welded rundown tank is a fire-safe combination. Besides being a sure fire preventive, it saves the oil that otherwise goes up in evaporation. And the best part of it is that a Horton welded rundown tank costs you no more—sometimes less—than a riveted tank.

We'll gladly furnish you with an estimate on Horton welded tanks equipped with Wiggins roofs for your next job. Buy your next rundown tanks on the same contract with your Wiggins roofs—and be sure of a smooth-working, tight-fitting combination. Write our nearest office.

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Chicago, 2128 Old Colony Bldg.
New York, 3147 Hudson Terminal Bldg.
Cleveland, 2204 Union Trust Bldg.
Dallas, 1641 Praetorian Bldg.
Atlanta, 1054 Healey Bldg.
San Francisco, 1054 Rialto Bldg.

The WIGGINS ROOF

Pennsylvania-West Virginia

By D. S. Wakenight

East Ohio Gas Co. gets 185-bbl. producer and one of 70 bbls. in Holmes County, Ohio. Murphy & Co. have 165-bbl. well in Coshocton County. E. H. Everett Co. has 185-bbl. completion in Licking County. South Penn Oil Co., Ritchie County, West Virginia, well makes 50 bbls; Clay County well 30 bbls.

PITTSBURGH, Pa., Mar. 8.—Nearly all of the good completions in the eastern fields came in near the close of the week of development work. The deep sand territory in southeastern Ohio furnished nearly all. Southwest Pennsylvania completed a large gasser and the West Virginia fields nothing better than a 50-bbl. producer.

One feature of the week was the rapid decline in the recent completions in Morris Township, Greene County, Pennsylvania. The way the wells have slumped from their initial production seems to indicate that they are not drawing their production from any considerable area. In the end it will in no way differ from all the late pools discovered in the southwest fields. Active development work no sooner begins than light pumpers or dry holes are encountered.

Southeastern Ohio's Good Wells

In Lot 15, Hardy Township, Holmes County, the East Ohio Gas Co. completed and shot in the Clinton sand a test on the J. E. Miller farm. The well produced 185 bbls. the first 24 hours. In Lot 9, same township, the same company completed No. 6 on the J. R. Forgy farm and the first 24 hours after shot in the Clinton sand produced 70 bbls.

In the northeast quarter of Section 15, Perry Township, Coshocton County, Murphy & Co. drilled through and shot in the Clinton sand a test on the Wheeler Hoseholder farm. The well produced 165 bbls. the ensuing 24 hours. In Lot 8, Monroe Township, Holmes County, the Empire Gas & Fuel Co. completed in the Clinton sand No. 5 on the U. S. Davenport farm. It is a gasser good for 500,000 feet.

The Edward H. Everett Co.'s No. 10 on the Felix Claypool farm, in Section 18, Hanover Township, Licking County, the first 24 hours after drilled through the Clinton sand and shot, produced 185 bbls. In the southwest quarter of Section 20, Kilbuck Township, Holmes County, the Ohio Oil Co. has drilled a second test on the A. W. Schonauer farm through the Clinton sand. No oil and only a little gas was encountered at this location and it will probably be abandoned.

Gassers in Guernsey County

In Section 11, Adams Township, Guernsey County, the Ohio Fuel Gas Co. completed in the Niagara lime, at a depth of 3,386 feet, a test on the P. L. Mullins farm, a gasser good for 1,247,000 feet. In Section 21, same township, the same company has drilled its test on the William Knight farm through the same formation, depth 3,311 feet. It is a gasser good for 4,284,000 feet. In Section 9, Center Township, Thomas Matthews and others drilled a test on the W. J. Hutton farm into the Niagara lime, depth 3,998 feet. It is a light gasser.

In the southeast quarter of Section 33, York Township, Morgan County, the Dailey Oil Co. completed and shot in the Berea grit a test on the Mary L. Bell farm, good for 5 bbls. a day. On the west side of Section 20, Newport Township, Washington County, O. S. Reckard & Co. completed No. 10 on the F. F. Dana farm, good for 5 bbls. a day in the Keener sand.

In the southeast quarter of Section 23, Fallsbury Township, Licking County, the Leonard Oil & Gas Co.'s test on the J. W. and Mary Booth heirs farm is through the Clinton sand and dry. In the southeast quarter of Section 8, Killbuck Township, Holmes County, the Empire Gas & Fuel Co.'s test on the J. H. Reese farm is also a duster in the same formation.

In the southeast quarter of Section 29, York Township, Morgan County, the Pure Oil Co. has completed and shot in the Berea grit No. 6 on the C. S. and Chestora Christman farm, good for 15 bbls. a day. Near Newark, Licking County, in Newton Township, Patton, Horpell & Co. completed a test on the Luther Long farm, a very light pumper in the Berea grit.

In Lot 1, Madison Township, Licking County, E. D. Edmonds & Co. completed in the Berea grit No. 3 on the J. W. Neibarger farm, good for 8 bbls. a day. In the Fisher Pool, Alexander Township, Athens County, the Biddle Oil & Gas Co.'s test on the Biddle heirs farm is good for 15 bbls. a day in the same formation.

West Virginia

The best completion in the West Virginia fields during the week is the South Penn Oil Co.'s test on the Matilda Jamison farm, on Goose Creek, Grant district, Ritchie County. It is estimated good for 50 bbls. a day. If as good as reported it is the best producer completed in the West Virginia fields during the past week. In the same district, at the headwaters of Brushy Fork Run, the Aetna Oil & Gas Co.'s No. 14 on the Ross estate is in the Maxon sand good for 5 bbls. a day.

Gassers in Logan County

In Logan district, Logan County, the Wacatock Oil & Gas Co. completed No. 12 on the Dingess Run Coal Co.'s property, a gasser good for 400,000 feet in the Big Injun sand. In the same district, the same company's test on the Bolivar McDonald farm is a gasser in the same formation good for 450,000 feet. In Sherman district, Boone County, Godfrey L. Cabot completed a test on the Anderson Land & Development Co.'s property good for 200,000 feet in the Berea grit.

Average Producer in Clay County

In Henry district, Clay County, the South Penn Oil Co. completed in the Big Injun sand No. 12 on the O. D. Stockly farm good for 30 or 35 bbls. a day. The location is 600 feet north of the first test. The South Penn Oil Co. has completed No. 10 on the same farm, much lighter than the average producer in that development. This location is 525 feet east of No. 5 and not good for more than 10 bbls. a day in the Big Injun sand.

In DeKalb district, Gilmer County, Clem Morris and others have drilled a second test on the Margaret Barker farm into the Big Injun sand. It is a gasser. McIntosh & Miller's No. 5 on the James A. Walton farm, in Sherman district, Calhoun County, is a gasser in the Big Injun sand. In Clay district, Wood County, the Rothwell Oil Co.'s test on the J. S. Burdette farm is now through the Berea grit and dry. It has been abandoned.

In Union district, Ritchie County, Ira Cox completed a second test on his own farm. It is a gasser in the salt sand. In Cove district, Doddridge County, the Hope Natural Gas Co.'s test on the H. C. Bode farm is a very light pumper in the Gordon sand.

Fair Producer in Boone

In Sherman district, Boone County, the Pure Oil Co. has drilled its No. 223 on the Williams Coal Co.'s tract into the Berea grit good for 25 bbls. a day. In the same district, the same company completed No. 6 on the Lafollett, Robson & Prichard tract. It is a light gasser. In Washington district, same county, the Owens Bottle & Machine Co. completed No. 3 on the Little Coal & Land Co.'s tract good for 175,000 feet.

In the Big Run Pool, Williams district, Wood County, the Parmaco Oil Co. has completed in the Macksburg sand a second test on the John Maloney farm. It is a duster. On Hunt Fork, Harper district, Roane County, the Columbia Carbon Co. completed a second test on the W. R. Caldwell farm, a small gasser in the Big Injun sand.

On Third Run, DeKalb district, Gilmer County, the Hope Construction & Refining Co. has drilled a test on the Lewis Bennett farm through the Berea grit and dry. The location is 1 mile south of the South Penn Oil Co.'s test on the L. W. Reynolds farm. In the same district, the Hope Construction & Refining Co. has started to drill its test on the Drusella Hardman farm to the lower sands.

Week-end Completions

On Wolf Run, Grant district, Ritchie County, Mahaney & Lucas completed in the Big Injun sand a test on the A. Carmichael farm. It is a duster. In Center district, Gilmer County, the South Penn Oil Co.'s test on the Richmond Noore farm is a 6,000,000-foot gasser in the Berea grit. This is the first in that locality to get a paying gas well in the Berea grit.

On Finches Run, Lincoln district, Marion County, the Owens Bottle & Machine Co. completed in the Big Injun sand its test on the Earl Wise farm. It is a fair gasser. On Big Paw-Paw the same company has started a test on the Lot Musgrove farm.

In Kermit district, Mingo County, the Pilgrim Oil & Gas Co. completed a test on the Lewis Dempsey farm, showing for a 300,000-foot gas well. In Liberty district, Marshall County, the Manufacturers Light & Heat Co.'s test on the A. L. Evans farm is a gasser in the Big Injun sand. In the same district, the Decem Development Co. has a gasser on the W. A. Evans farm, in the Gordon sand.

In Center district, Wetzel County, the Manufacturers Light & Heat Co. is through the Gordon sand at a test on the William & Helen Tier farm. It is dry in all formations and abandoned. In Walton district, Roane County, the United Fuel Co.'s test on the T. R. Simmons farm is a gasser in the Big Injun sand. In Center district, Wetzel County, J. J. Boundy has a 5-bbl. pumper in the Gordon sand at a test on the William Smith farm.

On Poplar Fork, Scott district, Putnam County, the Scott Oil Co. completed in the salt sand a test on the E. A. Taylor farm and showing for a 20-bbl.

(Continued on Page 103)

News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., Mar. 6. — In the Turner Valley Field, southwest of Calgary, Vulcan Oils, Ltd., No. 1, offsetting the Royalite No. 4 naphtha gusher, is down 3,960 feet and resuming drilling after underreaming and lowering the 8¼-inch casing to the bottom of the hole. The drill is working in a hard formation, thought to be the hard limestone above the dolomite. Light oil seepages from the upper horizons rise between 300 and 400 feet in the hole and the oil is being bailed regularly. Another oil showing is anticipated around 4,000 feet when the dolomitic limestone is reached. McLeod Oil Co.'s No. 2, Section 1-20-3w5, is fishing for a lost bit. Royalite's Nos. 5 and 6, rotary tests, are both drilling; the former reported close to 2,800 feet. Royalite No. 4 is reported making close to 650 bbls. of crude naphtha per day, in addition to the gas production.

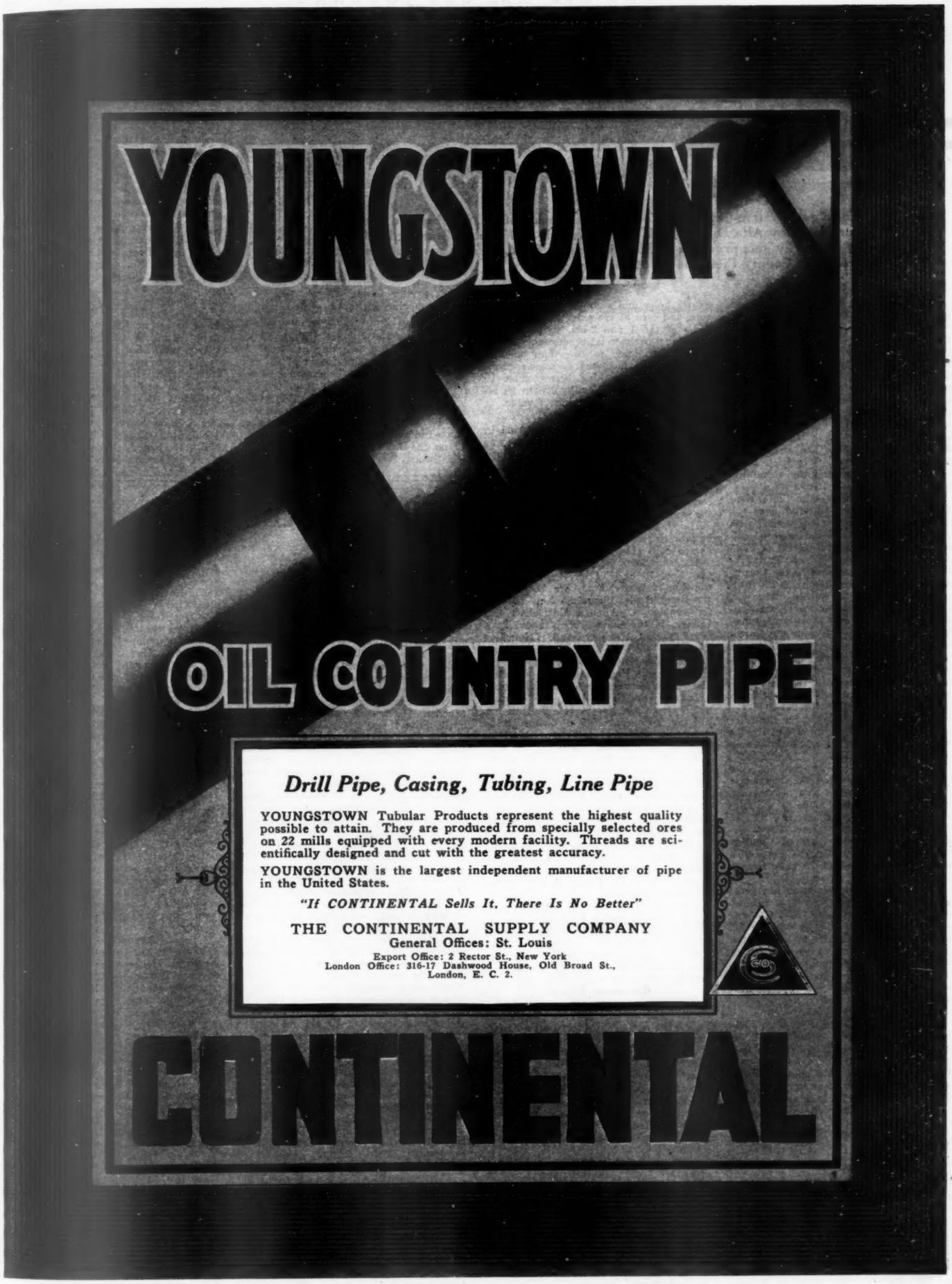
With the approach of spring, renewed activity is noticeable in the border field. Imperial Oil, Ltd., will this spring spud in the Erickson Coulee test, Section 8-1-12w4, 8 miles west of its Dead Horse Coulee No. 2, which last season finished a duster. It is also reported that a deep test will be made on the Rogers-Imperial structure on the supposition that the Royalite sand may be duplicated, or a deep oil sand encountered, by drilling into the Madison limestone. Some leasing has been done recently on the Pot Hole Dome structure south of Lethbridge, but no further steps have yet been taken in the direction of development.

Bow Island Drilling

The Canadian Western Natural Gas Co.'s drilling campaign for 1926 includes a deep test for gas in the Bow Island Field, where the sands underlying the present Bow Island gas sand have never been tested by deep drilling. The Canadian Western will also drill two new tests in the Foremost Field; and while these are primarily intended to increase the available natural gas supply, the fact that traces of oil were encountered in one of the Foremost tests drilled last season adds to the possibilities in this area.

It is reported that in the Quarantine Reserve area, close to Coutts, J. Frank Moodie of Calgary, who some years ago began a series of four tests through the Moodie Syndicate, has repurchased some or all of his former interests and will carry on extensive development work this season. It is understood that Mr. Moodie has interested British capital with a view to completing at least three of the four unfinished tests, and doing some new drilling. The Quarantine Reserve was, following the Kevin-Sunburst discoveries some years ago, the scene of an effort to develop commercial oil production on the Canadian side of the Montana boundary. At that time nice tests were located on the Quarantine Reserve, Township 1-15w4, and three others in Townships 1-14-w4 and 1-16w4, close to the Quarantine. Of these tests, some six were drilled below 1,000 feet; the Coutts-Sweetgrass Oils, Ltd., McLean-Mitchell well, Section 1-1-15w4, being drilled to about 2,850 feet, where water troubles prevented the test being carried deeper. The McLean-Mitchell got several oil and gas showings; but owing chiefly to difficulties in financing, most of the Quarantine Reserve tests were not carried even to that depth. The only test now active in this area is the Urban Oils, Ltd. (formerly the Moodie-Dundas) No. 1, Section 4-1-15w4. This test, started originally by the Moodie Syndicate, was last year taken over by Urban Oils, Ltd., of Calgary, and has since been drilled below 2,000 feet, securing a fair gas production and some slight oil showings. Drilling

(Continued on Page 105)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CONTINENTAL

Kentucky—Tennessee

By Vern T. Whitney

Third good well in Cheatham Pool, Crocus Creek district, Cumberland County, completed by Alta Oil Co. with reported flush of 75 bbls. Standard Oil Co. of Kentucky gets producer in Jackson County Field, an advance development from Lee County Field that is attracting operators.

WINCHESTER, Ky., Mar. 8.—A survey of the Kentucky Field at the start of March shows 137 rigs up, of which 122 are drilling; Western Kentucky leads with 78 rigs and drilling wells, of which 20 are in Barren County, 19 in Warren, 15 in Owensboro district, 10 in Cumberland, 7 in Allen, while the remaining counties show 7 active strings. In the eastern division there are 59 active operations under way, 13 in Lawrence and Johnson Counties, 12 in Johnson and Magoffin Counties, 8 in Lee and Owsley Counties, 6 in Wayne, 5 each in Estill and Floyd Counties, and the remaining 10 are in scattered territory.

The most important of the late Kentucky completions is centered near the town of Drip Rock, in the eastern part of Jackson County, in the eastern division, where the Standard Oil Co. of Kentucky drilled a test on the Isaac T. Sparks lease, the pay being found in the Cornif'erous formation at a depth of 720 feet, and reported good for 8 bbls. The well is about 600 feet east of the recent completion made by the Fowler Brothers Petroleum Co. and others on the Carter Sparks heirs' lease. The Jackson County Field is an advance development from the Lee County Field and sufficient production has been uncovered to induce a number of companies and individual operators to enter the field. The Standard Oil Co. of Kentucky has contracted for the drilling of another test on the Isaac Sparks lease, across South Fork of Station Camp Creek, near Drip Rock.

None of the Kentucky counties contributed anything better than moderate pumpers to the week's new production, outside of a completion made by the Alta Oil Co.'s second test on the O. E. Cheatham lease in the Crocus Creek district, in the northern part of Cumberland County, near the Adair County line, with a reported flush of 75 bbls. from a depth of 271 feet.

Development work has been hampered in all sections of Kentucky and Tennessee, in fact in Mississippi, Alabama and Georgia, as well, by stormy weather and bad conditions of the roads. Now that spring is getting near, a revival will be looked for, as every operator is anxious to get things moving and the oil going into the tanks from new development work.

Week's Work

The past week in the Kentucky Field shows 14 completions, 3 failures, 1 gas and 10 producing wells, with a combined initial output of 133 bbls. Compared with the previous week, this shows 10 less completions, 36 bbls. less in production, 4 less dry holes, while in gas wells there was no change. The wells were distributed as follows:

County—	Comp.	Wells	Prod.	Dry	Gas
Barren	3	2	19	1	0
Allen	3	1	1	2	0
Johnson-Magoffin	2	1	1	0	1
Cumberland	1	1	75	0	0
Lawrence-Johnson	1	1	15	0	0
Elliott	1	1	10	0	0
Jackson	1	1	8	0	0
Estill	1	1	3	0	0
Warren	1	1	1	0	0
Total	14	10	133	3	1
Last week	24	16	169	7	1
Difference	10	6	36	4	0

Western Division

Outside of the 75-bbl. strike in Cumberland County, the western division made a very poor showing for the week, as dry holes and stripper wells were the rule, and even at the most shallow depths wells of the 1 and 2-bbl. stripe are not considered commercial producers, for they quickly get down to less than one-half barrel. It is evident that in some sections of the field something better must be found or wildcatting will have to be resumed to uncover something of value.

Barren County

The best completion for the period in the Glasgow Field of Barren County was that of the Houchins Leasehold Co. in a second attempt on the Mayfield leases, in the Emery-Moore Pool, with a reported production of 15 bbls. The same company's No. 6 on the Gumm lease, in the same area, is reported as a duster.

Helper and Gorby's No. 5 on the Chamberlain lease, in the Gorby Pool, is reported at 5 bbls. flush.

Latest reports from the Ziegler Brothers' Nos. 13 and 14 on the Drinon, in the Emery-Moore Pool, are both below the Black Shale, 15 and 35 feet, and due for completion. Allen & Hartzel's No. 3 Delong, in the same pool, is about at a depth to get the pay sand. Houchins Leasehold Co.'s No. 4 Mayfield, down around 250 feet, while the Russell Oil Co.'s No. 1 P. Page lease, in the Oil City district, is showing for a light pumper.

In the Hall-Baker Pool, the Consolidated Gas Co.'s No. 14 H. W. Duff has all the appearance of a duster, being down into the pay sand deep enough to find the oil, if it was there.

In the Gorby Pool, Helper & Gorby have moved a drilling machine to No. 1 Chamberlain lease and will drill No. 1 to the deep pay sand. This well has been producing from the amber pay sand. Lewis Emery, Jr., & Sons' No. 1 Smith, which adjoins the Richardson lease, looks as though it would drop into the duster list, which is a surprise, as good producers have been found recently on the Richardson, J. W. Porter is drilling No. 1 Chamberlain lease.

The wildcat well east of Glasgow, drilling by the Houchins Leasehold Co., on the Lovelady lease, has all the earmarks of a dry hole.

Baker and others' wildcat on the Tompkinsville Road, out of Glasgow, is drilling below the black shale.

Owensboro District

No real completions were reported from the Owensboro district, but the White Plains Oil & Gas Co.'s test on the Orella Ralph lease, 400 feet south of the Brown land, or near what is known as the Midkiff Pool, is making a 10-bbl. showing from the Barlow sand, while the Kentucky Oil Co.'s test, about the center of the E. Morrison lease, west of the Bert Thompson 40 acres and the Gilbert Barlow tract, looks very much like a duster and listed practically for abandonment in the Jett sand.

The Pennsylvania-Indiana Oil Syndicate's No. 1 well, 200 feet from the southwest corner of the Laura Mercer 54 acres, is dry in the Jett sand, and now drilling to the Barlow sand. The Wah-Shah-She Oil Co.'s test on the R. R. Kelley lease, to the northeast of Griffith, near the Benany store, is down close to 500 feet. Greasy Creek Oil Co.'s No. 6 Dave King lease, 400 feet southwest of No. 5, is around 500 feet.

In the Midkiff Pool, the White Plains Co. is moving in for a second test on the J. J. Midkiff, which is an offset to No. 1 Orella Ralph tract. White Planis Oil & Gas Co. is working at a test on the V. Bunn farm, northeast of the McBrayer farm. Bert Thompson's second well on the Gabbart 100 acres is down close around 300 feet. The Petroleum Extraction Co. is working at a test on the K. Woodward tract. The Pennsylvania-Indiana Oil Syndicate started No. 12 on the John N. Swope 111 acres, in the Swope Pool, 200 feet southeast of No. 7 and 200 feet northeast of No. 9, same lease.

The Leeper Oil Co. was delayed a few days in shooting old No. 1 on the Amanda Stewart lease near Pellville. This well had been making a small production from the Jett sand, but Mr. Leeper concluded it would prove profitable to drill to the Barlow sand and thus have two sands to draw from. After the drilling had been completed and the nitroglycerin set for the shooting, difficulty was experienced in pulling the casing. This was accomplished after a few days, and the well is now ready for the pump at an increased production.

Warren-Allen Counties

In Allen County, Cyphes & Harley's No. 4 Lon Oliver tract looks like a duster at 300 feet. No. 3 on this farm pumped but 1 bbl. at 260 feet. The West Penn Oil Co.'s No. 11 G. W. Pearson tract was dry at 300 feet and J. J. Sayre got one of the same kind in his No. 19 Susan Moore tract at 404 feet. American National Bank is drilling No. 13 Phoebe Oliver tract, and Ziegler and others are drilling near pay sand at No. 1 H. Ayres tract. The White Plains Oil & Gas Co. reports a bad hole at 110 feet at its No. 21 W. B. Tabor tract.

In Warren County, George McGinley's No. 5 Stone heirs tract is credited with 1 bbl. at 1,000 feet. Wilson and others' No. 3 Herbert Jenkins tract looks like a

(Continued on Page 74)

Fields of the Central West

By Whit

FINDLAY, Ohio, Mar. 8.—Operators over the Central West Field are becoming discouraged to a great extent, not by the price of crude but by the bad weather that has prevailed the past couple of months, making development almost out of the question. While quite a number of new wells have been brought in for the time mentioned, the cost of bringing them in was much greater than if weather conditions were favorable, as moving material was a large factor in expense. It will be at least a month until activity will be shown in all areas of this field to the north of the Ohio River. The gas companies of central Ohio are planning for a busy drilling campaign both in old and virgin territory. There are hopes of finding new productive gas pools in Coshocton, Tuscarawas, Guernsey and other counties that have been only partly developed. The finding of good oil producers in the gas areas of Holmes, Wayne, Licking, Perry, Hocking and other counties will spur the oil operators to greater testing of their holdings. The old Lima Field is in for an active season as are Indiana and Illinois, and the new Saginaw Field of Michigan will see quite a lot of work until the field is defined.

The week in review was not a very interesting one owing to the small number of completions reported from each field. In central Ohio, Indiana, Lima Field and in Illinois, the total number of new completions was 15 with 177 bbls. flush production, 4 dry holes, 3 gas wells and during the time 15 old wells were abandoned.

Lima Field

The Lima Field of northwestern Ohio for the week had but 6 completions, 30 bbls. flush, 1 dry hole and 15 old wells abandoned, where there should have been a great many more.

H. H. Cuppler has drilled in his second well on the Charles D. Wuesner farm, Section 4, Center Township, Mercer County, with a 24-hour gauge of 10 bbls.

The Ohio Oil Co.'s No. 4 well, 200 feet from the north line and 700 feet from the west line of the Henry Kidder farm, Section 30, Washington Township, Sandusky County, showed 9 bbls. from the Trenton sand topped at 1,266 feet and drilled to a total depth of 1,370 feet or 104 feet in the sand.

In the new Shelby County Field of Cynthian Township, Lee A. Watson's No. 3 well, 1,450 feet from the north line and 300 feet from the west line of the Felix Grilliox farm, Section 34, had a flush of 5 bbls. In Section 27, same township, W. E. McKelvey's fourth well, 950 feet from the south line and 850 feet from the east line of the H. Wissman farm, pumped 5 bbls. In the Mansfield Oil & Gas Co.'s No. 8 well, 1,000 feet from the south line and 900 feet from the west line of the Charles F. Broerman farm, Section 35, top of sand was struck at 1,238 feet and drilled 40 feet in, the production being but 1 bbl.

In McDonel Township, Hardin County, the Boston-Southwestern Oil & Gas Co. is reported to have drilled in a duster at a test on the John Ewing farm.

New Work Starting

In Center Township, Mercer County, Mack P. Colt and others are drilling a test on the T. E. Nelson farm, Section 10. E. B. Jack and others are drilling a second test on the Henry Steva farm, Section 4, Washington Township, Auglaize County. O. T. Botkins and others are drilling a second test on the Hattie E. Driver farm, Section 12, Bath Township, Allen County. Schmidt and others are drilling a test on the A. J. Fleece farm, in McDonel Township, Hardin County.

Abandoned Wells

The Ohio Oil Co. abandoned No. 1 on the F. M. Hockenberry farm, Section 25, Spencer Township, Allen County. Same company abandoned Nos. 3 and 4 W. Armstrong farm, Sections 21 and 22, Noble Township, Auglaize County. Marcus Rosenthal abandoned No. 1 Phillip Roby farm, Section 16, same township. In Salem Township, same county, Moore and others pulled out No. 1 on the A. J. Gierhart, Section 6.

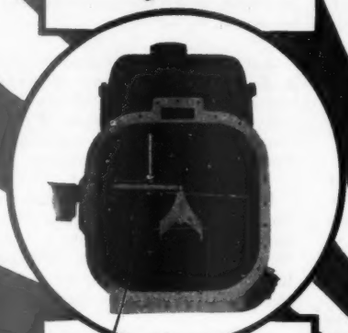
In Jennings Township, Van Wert County, Miller Brothers & Jones abandoned Nos. 4, 10, 12, 20 and 21 on the George Becker No. 2 farm, Section 5, and Nos. 4, 13, 14, 15 and 18 Haver & Becker farm, same section.

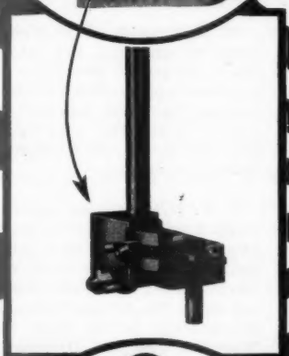
Buys Oil Property

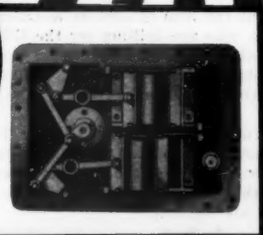
The Oko Oil & Gas Co., of Lima, with Mack P. Colt as president, is a new company recently organized with a capital of $500,000 and holding production in the Lima, Indiana, Oklahoma and Kansas fields. This company has just purchased the entire holdings of the Omar Oil & Gas Co., of Pittsburgh, Pa., located in what is known as the Hotmire Pool, about 10 miles south of Portland, Ind., and in Jay County, consisting of

(Continued on Page 102)

Details of The New Metco POSITIVE LARGE VOLUME Gas Meter







The new Metco Meter is designed to take care of Industrial Installations where a large capacity meter is required. The meters are small in size, light in weight and easy to operate and adjust. The links, arms and all bearings are made of Phosphor Bronze which is one of the best slow speed bearing materials known.

Metco Meters are designed and rated as called for by American Gas Association Specifications; the 2500-foot passing 2500 cu. ft. per hour at a 2″ initial pressure with ½″ differential rated at .6 gravity gas; the 4000-foot passing 4000 cu. ft. per hour under like conditions.

These meters are built to take overload and run smoothly without wear at a differential of 2″ water. Under these conditions the 2500-foot will pass 4000 cu. ft. per hour and the 4000-foot will pass 7500 cu. ft. per hour.

A brief Booklet, describing the new Metco meter will be gladly sent upon request.

METRIC METAL WORKS
of the American Meter Company-Inc.
ERIE - PENNSYLVANIA - U-S-A

MEN KNOWN IN OILDOM

F. Ray McGrew

F. Ray McGrew, president of the Standard Pipe Line Company of Shreveport, La., was born in Haynesville, Butler County, Pennsylvania, on April 24, 1882.

He entered the employ of the Eureka Pipe Line Company in the fields of West Virginia in 1897, and since that time has been engaged in pipe line work.

Since 1903 he has been employed by the same interests. In that year he left the eastern fields and journeyed to the Gulf Coast region where the Spindletop and other coastal fields were under development.

In 1909 he was sent to Shreveport when light oil was found in the Caddo Field, and it was decided to construct a gathering system for this oil. At that time, the trunk pipe line of the Oklahoma Pipe Line Company was under construction from the Oklahoma fields to the refinery at Baton Rouge. The gathering system was connected to the larger line and operated as joint property of both companies.

Mr. McGrew was district foreman of the Caddo district from 1909 to 1913. He was assistant superintendent from 1913 to 1918, and superintendent from 1918 to 1920. In 1920 he became general superintendent of the line.

When the Standard Pipe Line Co. was organized in 1923, he was made vice president and general manager, a position he held until February, 1926, when he was elected president to succeed A. Clarke Bedford.

PERSONAL PARAGRAPHS

T. B. Bliss of the Muskogee Tool Company, is calling on the trade in Kansas.

* * *

Carl K. Dresser of Tulsa, Okla., made a trip through the Arkansas-Louisiana fields recently.

* * *

G. L. Young, engineer with the Signal Gasoline Corporation of Los Angeles, Calif., is visiting the Mid-Continent.

* * *

Robert W. McDowell, formerly assistant sales manager, has recently left the service of Producers & Refiners Corporation.

* * *

W. B. Pyron of the Houston, Tex., office of the Gulf Production Company, was a business visitor in Fort Worth recently.

* * *

W. B. Sutton, of the land department of the Vacuum Oil Company and Dilworth Hager of the geological staff, Houston, have returned from a two weeks trip to the executive offices in New York.

Charles D. Clarke, with Charles R. Long., Jr., Company of Louisville, Ky., is calling on the refineries in the Mid-Continent.

* * *

R. F. Gibson of the Dixie Oil Company's land office in Tulsa, Okla., is visiting the main office of the company in Shreveport, La.

* * *

Col. A. E. Humphrey, president of the Humphrey Corporation, Houston, Tex., was a recent business visitor from his home in Denver.

* * *

T. B. Hoffer, president of the Hoffer Oil Corporation, has just returned from a business trip to eastern points, where he spent several weeks.

* * *

Dr. Eric Starke, geologist and petroleum engineer of Los Angeles, has made several trips recently to San Francisco in connection with leases which he holds.

* * *

F. J. Adams of the Gulf Production Company, in charge of operations in the North and West Texas districts, spent several days recently in the Houston office on business.

* * *

Ralph Lloyd, owner of the prolific Lloyd lease of the Associated Oil Company in the Ventura Avenue Field, left Los Angeles for Portland, Ore., on a business trip to be gone about three weeks.

* * *

Charles Markey of the Link-Belt Company of Indianapolis, Ind., is traveling on his spring trip through the Mid-Continent and Gulf Coast fields, and spent last week in the Louisiana-Arkansas territory.

* * *

A. P. Thomas of the Leidecker Tool Company at Marietta, Ohio, is making a trip through the Mid-Continent area and visited the Spiral Drilling Tool Company of Tulsa, the Mid-Continent distributors of Leidecker products.

* * *

C. C. Bowser, a pioneer operator in the coastal region and in Mexico, was a Houston, Tex., visitor recently. He is now operating in the Panhandle section of Texas. Mr. Bowser started in the oil business at Parker, Pa.

* * *

John L. Church, assistant manager of lands of the Union Oil Company of California, has gone to Colombia, South America, on a business trip in the interest of his company. It is expected that he will be gone about two months.

* * *

Erle P. Halliburton of the Halliburton Cementing Company of Los Angeles made a trip through the Mid-Continent fields, visiting his branch offices at El Dorado, Ark., and Shreveport, La., before visiting the Gulf Coast fields.

* * *

F. V. Faulkner, vice president of the Magnolia Petroleum Company and head of the production department, Dallas, visited several of the Gulf Coast pools recently, accompanied by A. F. Danniston of the land and lease department.

* * *

Fred E. Devore of the firm of Devore & Latimer, drilling contractors, who are drilling for the Gibson Oil Corporation and the Roxana Petroleum Corporation in the Panhandle, was a recent visitor in Fort Worth and also in Tulsa.

* * *

F. E. Harris, formerly of the South Chester Tube Company, has joined the Moran-Dwight Company, Mid-Continent representative of the American Seamless Tube Corporation. Mr. Harris is in California in the interests of his concern.

* * *

William Reid has joined the geological staff of the Humble Oil & Refining Company at Houston, Tex. He is a graduate of the Union College, Schenectady, N. Y., and was formerly with the Atlantic Refining Company at Philadelphia.

* * *

Dawson H. Davis, for the past four and one-half years connected with the Texas Pacific Coal & Oil Company, has resigned to enter the practice of law. Mr. Davis has been connected with the oil industry since the "boom days" of 1917 and, prior to his connection with the above company, was connected with the Gulf Production Company for approximately three years.

Capt. J. F. Lucey, chairman of the standardization committee of the American Petroleum Institute, has been making a trip through the coastal regions. He is also president of the Lucey Petroleum Company of Dallas, operating in the Lockhart Field.

* * *

E. T. Powers of Denver, one of the oldest Union Oil Company stockholders, was in Los Angeles recently attending the annual meeting of the company. Although Mr. Powers has been a stockholder for a number of years, he is comparatively a young men.

* * *

G. C. Jester, chief geologist of the Standard Oil Company of California, recently returned to the home office in San Francisco following a trip to New York, where he attended the meeting of the American Institute of Mining and Metallurgical Engineers.

* * *

G. G. Langan, district manager in the Mid-Continent area for the Hill-Hubbell Company of San Francisco, Calif., made a leisurely return from the A.P.I. meeting at Los Angeles and has just "made" Houston, Shreveport and Dallas en route to the Tulsa office.

* * *

Roeser & Pendleton, Inc., have completed the transfer of the company's head office from Breckenridge to Fort Worth, Tex., and are now in their new quarters, 610 Fort Worth Club Bldg. W. S. McDuffie, assistant secretary and treasurer, is in charge of the office.

* * *

Joseph M. Regan, president of the Regan Forge & Engineering Company of San Pedro, Calif., is visiting fields in the Mid-Continent territory accompanied by Jack Becker of the Becker Specialty Company, Mid-Continent representative of the Regan Forge & Engineering Company.

* * *

Frank J. McGovern, superintendent of the southern division of the Sinclair Pipe Line Company, Mexia headquarters, made a trip over the line to Houston during the week. The company is delivering 25,000 bbls. per day of light gravity crude to the Sinclair refinery on the ship channel at Houston.

* * *

W. H. Trumble of the Western Oil Refining Company, Indianapolis, Ind., also president of the Indiana Indepenent Petroleum Marketers Association, has been appointed a director of the National Petroleum Marketers Association to fill the unexpired term of Frank Enz, who resigned as a result of his business having been taken over by the Mariand Refining Company.

* * *

P. B. Dykeman, oil operator of Riverton, Wyo., stopped off in Casper on his way to Riverton from Denver. Mr. Dykeman usually holes up at Riverton during the winter months when the heavy snows block traffic, but this winter he broke his way out for a trip to the Colorado capital. Riverton is the gateway to the great elk hunting country of Wyoming and Mr. Dykeman reports the elk are wintering fine and that the herds have increased very much in the past summer and fall.

* * *

George L. Ferguson, former field manager for the Marine Oil Company and recently in the same capacity for the Argo Oil Company in the Wyoming oil fields, will leave Casper about March 1 for Amarillo, Tex., where he will be located in future in charge of the field work of the Gibson Oil Corporation. Mr. Ferguson has been in the Wyoming fields for eight years, arriving originally from California and becoming field superintendent for the old Glenrock interests. The employes of the Argo Oil Company gave a farewell dance at Lavoye in honor of Mr. Ferguson's departure.

* * *

William J. Armstrong, director of the Oil and Gas Conservation Bureau of the Oklahoma Corporation Commission, probably will go to California to make a study of the oil and gas conservation regulations of that state and the results of their application. He does not expect that all of the regulations will be applicable in Oklahoma. "The bureau is making satisfactory progress in its work," says Mr. Armstrong, "particularly in securing the cooperation of the larger oil concerns. We have very few complaints and the regulations are being generally observed. The usefulness of the bureau is recognized by practically all oil men and it is our purpose to place only experienced field men on the district assignments."

TYPE "E" SWAB—

Offers Same Advantages as Type "A" Swab

The new type swab operates on exactly the same principle as the Type "A" Swab and offers all of the advantages of the older type. Cups yield readily to pass indentations in casing, yet maximum efficiency is obtained, the weight of the load operating to perfect contact of cups with casing walls, and not OPPOSING this contact as in the case of old style swabs. Contrary to rumor, we have proven time and again that the wires in our Swab cups do not cut the casing. The new swab, like the Type "A", may be used upside down as a flow packer or to drive fluid down the well and flush perforations. The new swab has a special advantage in its extreme shortness, which permits it to go around even the worst crooks in the hole.

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CORPORATION

NATURAL GAS DEVELOPMENTS

NATURAL GAS ALONE LAW IN LOS ANGELES?

LOS ANGELES, Calif., Mar. 6.—The natural gas ordinance of 1917 stalked through a hearing here before the State Railroad Commission and precipitated a wrangle between the city attorney and attorneys for the Los Angeles Gas & Electric Co. and the Southern California Gas Co.

Shortly before the hearing on the application of three local gas companies for an increase in rates was adjourned until April 27, the natural gas ordinance, the cause of a legal squabble years ago, was reintroduced when the city rested its case. The ordinance requires the gas companies to furnish all Los Angeles consumers with nothing but natural gas whenever a supply is available. To it is attached a penalty of a $500 fine or a six months' jail sentence for any violation.

Although the ordinance has been long forgotten, it was argued by the city that it is valid today so far as any court proceedings are concerned.

The Los Angeles Gas & Electric Corp. obtained a temporary Federal Court injunction restraining the city from enforcing the ordinance shortly after it was passed. At a subsequent hearing, the Railroad Commission intervened and claimed jurisdicition. Later the commission handed down a decision establishing rates and permitting the gas companies to serve either natural or mixed gas providing a certain minimum of heat units were supplied. The case before the Federal Court was forgotten and the proceedings were dismissed without a final decree, leaving the ordinance in effect, according to the city.

The largest part of the session was occupied by the testimony of John D. Hackstaff and Joseph M. Berkley, consulting gas engineers, called by the city as expert witnesses to refute the showing made by the gas companies that a decline in the production of natural gas is increasing operating expenses. Their testimony was that there is an abundant supply of natural gas for three years to come, that 40,000,000 feet a day is being wasted in the Ventura Field alone because pipe lines are not ample and that there is no physical reason why the gas companies cannot serve natural gas to all Los Angeles today easier and cheaper than the present mixed gas service in some areas.

LONE STAR GAS CO. INCREASED EARNINGS

The Lone Star Gas Co. in its report for 1925 showed a substantial gain in gross earnings, which totaled $9,171,983 against $7,464,236 in 1924. Most of the increase was reflected in net earnings which totaled $3,033,693, equal to $7.10 a share, compared with $1,520,562, or $3.79 a share, in 1924. After payment of $854,000 in dividends a balance of $2,179,693 was added to surplus, bringing total profit and loss surplus at December 31, 1925, to $5,080,800. The company also showed capital surplus of $2,496,402 and cash, United States Government and other securities totaling $1,319,311.

The Lone Star Gas Co. holds leases on about 91,000 acres in Texas and Oklahoma, of which 343 acres of oil and gas rights and 9,466 acres of gas rights are owned in fee. It owns 750 miles of gas lines and supplies the Dallas Gas Co., Fort Worth Gas Co., North Texas Gas Co. and Gainesville Gas Co., which have over 85,000 consumers. The company owns and has an interest in oil wells in Texas and Oklahoma.

The balance sheet as of December 31, 1925, follows: Assets—Investments, including pipe lines, gas rights, lands in fee and improvement thereon, oil and gas leases, leaseholds, oil wells and equipment and other property, $27,552,043; stores and supplies, $611,608; United States Government securities, $25,000; other securities, $1,216,700; cash, $77,612; accounts and notes receivable, $1,676,442; prepaid accounts, $21,253; other assets, $63,428; total, $31,244,086.

Liabilities—Capital stock, $10,675,000; capital surplus, $2,496,402; accounts payable, $1,027,094; notes payable, $1,730,000; reserve for depreciation and depletion, $10,068,961; other liabilities, $165,829; undivided profits, $5,080,800; total, $31,244,086.

GAS FOR THREE YEARS IN SOUTH CALIFORNIA

LOS ANGELES, Calif., Mar. 6.—Southern California has enough natural gas to supply every home and every industry for a period of three years, it was claimed when Clifton R. Swarts, petroleum engineer and geologist, appeared before the State Railway Commission, where the city is attempting to check the gas rate increase proposed by four companies.

Swarts has conducted an extensive survey in the Dominguez, Rosecrans, Athens and Signal Hill areas. The natural gas, he testified, would save the consumer 25 per cent because of its higher efficiency in heat units. Many abandoned oil wells, he said, are rich in natural gas. The tapping of these wells, he said, was highly feasible.

Swarts' testimony was part of the city's attempt to answer the four gas companies who seek higher rates with a counter demand for natural gas. The companies petitioning the Railroad Commission for increased rates are the Los Angeles Gas & Electric, the Southern Counties Gas, the Midway and the Southern California companies.

PLAN NEW GAS PLANT FOR IMPERIAL WELL

LOS ANGELES, Calif., Mar. 6.—Construction of a $500,000 gas plant and distributing system to serve the towns of El Centro, Calexico, Brawley and Imperial is to be started about May 1, according to the statement of H. W. Burkhart, general manager of the Inland Empire Gas Co., which recently obtained an Imperial Valley franchise from the State Railroad Commission.

The main plant is to be installed at either Imperial or El Centro, and pipe lines extended to the other valley towns. Intercity gas lines are to be laid above the ground, the plans indicate. This method of construction was devised due to the corrosive action of valley soil. It is claimed that the failure of a previously installed gas plant at El Centro was due largely to the failure of the underground pipe lines to withstand the chemical action of the alkali in the soil.

RUNNING NEW GAS LINE TO LISBON DISTRICT

EL DORADO, Ark., Mar. 6.—The Natural Gas & Fuel Corp. has begun construction on a 6-inch gas line, running directly from the gas field in Section 9-16-15, Norphlet district, to Section 9-17-16, Lisbon district, and connecting with the company's 4-inch line now serving the Lisbon area. The line will be completed within 10 days, according to announcements.

"The line of 6-inch pipe is being provided so that we may maintain an ample supply of gas in the Lisbon district," said Joseph Zeppa, secretary-manager of the Natural Gas & Fuel Corp. "The capacity of the present line will soon be reached with new wells being started daily, and purpose of the new line is that adequate service may be provided."

HOUSTON GAS RATES STILL IN CONTROVERSY

HOUSTON, Tex., Mar. 6.—Claiming that the year's revenue fell $13,880.45 short of the amount necessary to earn its entitled return, the Houston Gas & Fuel Co. has handed its 1925 report to Public Service Commissioner C. J. Kirk.

The gas company sets forth that it was entitled to earn a profit of $490,518.90, and that it only earned $476,638.45. Thus the city gets no split this year. The city did get a check for $29,486.66, being 2 per cent on gross receipts.

The company's report sets forth that its total fixed capital account is $6,299,733.94.

During 1925, the report sttaes, additions were made to mains and trunk lines totaling $331,204.84, and to holders, $86,896.24.

The report shows that gas manufactured amounted to 1,608,319,000 feet, that 1,399,288,200 feet was sold, that 3,060,000 was used by the company and that the rest was unaccounted for.

The present rate of $1.05 per 1,000 feet of gas will stand for a week or 10 days at least. That was the decision of city officials following a conference. This will give the city's gas rate experts a chance to work out their schedule for the natural gas.

It was feared for a time that the Houston Gas & Fuel Co. could not be considered legally "ready" until a natural gas rate had been established. The company it was said, was physically ready February 27 when its 20-inch gas line to the city's "gate" was completed and "purged" with gas.

Under its contract with the Houston Gulf Gas Co. the local company was able to commence collecting the $2,000 per day bond forfeit because the Gulf Gas Co. did not have natural gas in Houston. Reports were that 77 miles of pipe remained to be laid.

It was agreed to allow the present $1.05 rate stand until the natural gas rate was established. The entire matter was termed a "technicality," in which the city only wanted to be sure that the $2,000 a day forfeit is collected. This $2,000 daily will go on the capital account, thus reducing the total upon which the gas company is entitled to earn a return.

RECENT OPERATIONS IN CHICKASHA GAS FIELD

CHICKASHA, Okla., Mar. 6.—Completing its contract to a depth of 3,000 feet, the Chickasha Gas & Electric Co. is considering the advisability of drilling an additional 300 feet in its test southeast of the city in Section 12-6n-7w.

The total depth is 3,008 feet, at which point a core was taken showing the formation to be chocolate gumbo after having passed through shale streaked with lime.

The test of the Becker-Reed Oil & Gas Co. in Section 29-6n-7w is cementing the 8-inch casing at 2,047 feet. Standard tools will be installed and the test drilled to a depth of 3,000 feet if necessary. A good gas showing was encountered in this at 450 feet, the shallowest level at which a showing has been encountered in any Grady County well. Drilling is expected to be resumed within 10 days.

The gasser of the Prairie Oil & Gas Co., Section 3-4n-8w, in the midarea of the gas field, in which water trouble developed, will be plugged back 50 feet in an effort to shut the water off. It is believed the well was drilled too deep, the water breaking in from below, and that if the plugging is a success the well will be saved. It gauges around 20,000,000 feet.

USE OF ELECTRICITY INCREASING IN FIELDS

The use of electric power in drilling, pumping, pipe line and natural gasoline activities of the oil business is steadily increasing, according to S. G. Gassaway, of the Oklahoma Gas & Electric Co., in an address before the Technical Club of Oklahoma, held at the Permanent Industrial Exhibit at Tulsa. He said:

"Today the oil industry is the baby of other industries in the use of electricity, but education is increasing the ratio and the time will come when oil will use 50 to 60 per cent as do cement, lumber, flour, coal, steel and other basic industries.

"The first installation of electric motors was in the Sistersville, W. Va., fields in 1892 when five 3-horsepower motors were installed. They were left intact until the South Penn Oil Co. bought the property. In 1898 the installation of fourteen 15-horsepower motors was made in the Finney Pool near Washington, Pa., by the Forrest Oil Co. In 1924 these motors were still running and the number was increased to 60 direct connected motors.

"First foreign electric installation was at Baku in 1900. In 1904 the South Penn Oil Co. put in 430 motors in the Folsom area of West Virginia. In 1910 the Pacific Electric Power Co. installed the first in the California fields.

"Sand Springs Home, in the Oilton district; Shaffer Oil & Refining Co., adjacent to Cushing and at Wewoka; the Magnolia Petroleum Co. and the Empire Gas & Fuel Co. are the most noteworthy of Mid-Continent installations to date."

NOCONA HELIUM GAS IS LEFT IN GROUND

WASHINGTON, D. C., Mar. 6.—The Nocona gas field, where gas for helium manufacture may be obtained, is not to be tapped by the Government for this purpose at present.

While the House Appropriations Committee in its report approved the Bureau of Mines' Program for the development of its Fort Worth helium plant, it failed to appropriate $350,000 for a 25-mile pipe line to the new Nocona Field.

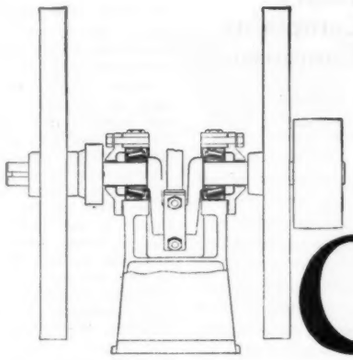
The committee said that in view of the doubt as to the helium needs of the Army and Navy, the members considered it advisable to permit the gas of this field to remain in the ground until needed.

NEW GAS PROCESS

According to Col. E. E. Garrison, in Western Gas magazine, one of the greatest advances made in the gas industry is the invention and development by Orestes U. Bean of a process for manufacturing superior gas from cheap, heavy oils, stillbottoms, residuums and tars. The process is the practical application in a new way of certain well-known principles of chemistry and engineering to produce a high B. t.u. gas at comparatively low cost.

GAS COMPANY CHARTER

OKLAHOMA CITY, Okla., Mar. 6.—The Western Counties Gas Co., a Delaware corporation, with headquarters at Pittsburgh, Pa., has been permitted to do business in Oklahoma with a capital investment of $100,000. A permit also has been granted to the Dunn-Lewis Oil Recovery Co. of Delaware, with a capital investment here of $5,000. A corporation charter has been issued to the Altamont Oil & Gas Co., of Bartlesville, capital $5,000, incorporators, F. M. Overlees, E. E. Schofield and P. A. Sompayrac, all of Bartlesville, and to the Hayes Petroleum Corp., of Tulsa, capital $10,000, incorporators J. J. Shea, T. F. Shea and M. C. McAnnally, all of Tulsa.



Crankshafts best mounted on Timken Tapered Roller Bearings

All the bearing movement is on steel entirely—Timken steel from Timken electric furnaces. All the bearing motion is *rolling* motion. Friction and wear are defeated. Smooth running, quiet main bearings are permanent, without overhauling. Bearing lubrication is safe. And crankshaft thrust is at last scientifically absorbed.

Never have the inherent Timken superiorities lent themselves to more profitable application than on crankshafts.

Timken is a name to help make the name of Timken-equipped products. Learn how much excellence and public acceptance you can add to your engines without adding appreciably to their cost. A letter to Timken will bring you the data.

THE TIMKEN ROLLER BEARING CO.
CANTON, OHIO

EQUIPMENT AND SUPPLIES

STEEL CONDITIONS SATISFACTORY, COUNTRY TUBULAR BUYING GROWS

By B. E. V. Luty

PITTSBURGH, Pa., Mar. 8.—Conditions in the steel market continue quite satisfactory all along the line. There has been more or less disappointment in the past two months over the slowness with which buying was resumed after the year-end lull, but the outcome shows that the buying has been practically sufficient to maintin conditions, as there has been a fairly steady increase, and the mills had entered the year with some accumulations of shipping orders in several lines.

All the indications are that steel has not been accumulating in buyers' hands to any extent, which means that the pace of production and shipments may be taken as indicative of the rate of consumption, and that rate is thus seen to be very high. In no direction is there indication that consumption will decrease in the near future, while in some lines, particularly in the oil trade and the automobile trade, increases are certain.

In the four months, November to February, inclusive, steel production was heavier than in any other four consecutive months since the war. This in itself makes a good record, while in addition there is the point that no decided decrease is now in prospect, whereas in other cases when a particularly high rate was reached for a few months sharp decreases did then occur. The prospect, therefore, is that while steel has now made a new high record for four months, it will also make new records for six months and for eight months. That would be to July 1, and how the industry will fare during the summer prognosticators do not care just now to consider.

Oil Country Buying

Buying of oil country tubular goods has continued increasing and is now not far from the average. The trade is between the period of seasonally light consumption and the period of seasonally heavy consumption. The pipe mills seem perfectly convinced that this year will make a new high record in consumption of steel in drilling. They would not consider the number of wells drilled as conclusive, because much second-hand material is used, and because wells average much greater depths now than formerly. Their predictions run to tonnage rather than to number of wells.

Several important pipe line projects are considered and purchases of line pipe may be concluded shortly. Some mills intimate that prospects for heavy mill operations are such that buyers may place contracts in advance of actual needs to insure deliveries.

Pipe mills are estimated to be operating at about 80 per cent, on the whole, this comparing with estimates of 60 to 65 per cent in November and December, and not much more in January. The increase in shipments is greater than would be indicated by comparison of these figures, since late in the old year mills were replenishing stocks, while now their shipments seem to be fully equal to their production.

The plate market, which weakened in January, has been stiffening again, and the minimum in the general Pittsburgh area is now regarded as 1.85 cents, against 1.80 cents a week and more ago.

Shading Decreased

In sheets the amount of shading has decreased sharply in the past week or two and a large volume of business is being done at full prices. Full establishment of these prices would represent quite an advance in five months, as there was some advance before the advance late in November, to the present asking figures.

The Connellsville furnace coke market has got down to $3.25, or only a trifle above last summer's low level. Eastern buying did not have a revival after the anthracite settlement, as operators seemed to expect.

The pig iron market continues dull, with prices unchanged from the level reached early in November.

OIL WELL IMPROVEMENTS WINS IMPORTANT SUIT

The Oil Well Improvements Co. in a decision handed down by Federal Judge Franklin E. Kennamer, of the Northern District of Oklahoma, on February 25, was declared to be the owner of patent covering the control casing head manufactured by it for the past 12 years. The patent was held to be valid and infringed by B. F. Palmer against whom a permanent injunction was entered together with an order requiring a satisfaction of damages, costs and profits.

At the same time, the same court ruled for the Oil Well Improvements Co. in a suit for alleged infringement brought by B. F. Palmer.

The decision is of interest to the oil fraternity because of the prominence of the company involved and the extensive use of the device which was involved in the litigation.

CLOSES HOUSTON PLANT

HOUSTON, Tex., Mar. 8.—The Lucey Manufacturing Co. has discontinued its plant in Houston and hereafter all products will be turned out of the Chattanooga, Tenn., plant. The distribution of Lucey products in Texas, Louisiana and Arkansas will be through the T. P. Word Supply Co., according to an official announcement.

Freight on Rotary Basis of Complaint Before Commission

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Mar. 6.—The Hughes Tool Co., manufacturer of oil well supplies at Houston, Tex., recently entered a complaint against practically all of the railroads of the United States in an action brought before the Interstate Commerce Commission alleging that the rating and rates on Hughes Tool joints, rotary rock bits and parts thereof, fishing taps, milling tools and weight indicators shipped from Houston to interstate destination are unreasonable, unjustly discriminatory and unduly preferential of other manufacturers of similar articles. The relief sought was as to the ratings in and the applicable class rates governed by the western classification.

The Republic Supply Co. and the Lucey Manufacturing Corp. of Texas, manufacturing and distributing oil well and drilling supplies at Houston, intervened in the support of the complaint and asked reparation. At the hearing they withdrew their prayer for reparation. All of the articles whose ratings are under attack are used in the rotary system of drilling wells.

Rotary tool joints, loose, in less than car loads, are carried in the oil well outfits and supplies list of the consolidated classification and are rated first class in the western and second class in the official and southern classifications. Complaint contended that they are entitled to a rating of fourth class the same as iron or steel pipe fittings, n.o.i.b.n. At the hearing it was requested that rotary tool joints, when attached to drilling pipe and transported from one field to another, be permitted to move in mixed car loads with drill pipe at the pipe rates. This request constituted an undue broadening of the issues, the commission states, and will not be further considered.

Rotary drilling bits, loose or in packages, are included in the oil well outfits and supplies list, and are rated second class, in less than car loads, in the three classifications. Drilling bits, other than rotary, loose or in bundles, are included in the same list and are rated third class, in less than car loads, in three classifications. In the western classification drill bits, in boxes, were originally rated second class as tools, n.o.i.b.n., but in 1914, at the request of the shipper, specific provision was made for them, when loose or in packages, at third class. In 1920, however, the rating on rotary drill bits was raised to second class because, defendants stated, they learned that the Hughes bit was a highly finished article and quite different from the ordinary drill bit.

The complainant sought a rating of third class but apparently desired it, the commission said, only on the bits when boxed. It laid great stress upon the alleged greater convenience and safety in handling boxed shipments, although it admitted that it is practically impossible to damage loose bits in transit. No evidence was introduced with respect to the bit parts.

Defendants stated that prior to the establishment of a specific rating it was represented to the classification committee by the oil well supply trade that rotary drill bits could be transported loose without damages and that due to the fact that oil wells are frequently located in inaccessible regions, where materials and packing facilities are limited, packing specifications should be made as liberal as possible. They submitted that they should not now be penalized for this liberal treatment accorded at the request of the oil well supply trade.

Complainant conceded that the value of rotary drill bits is greater than that of the ordinary cable drilling bits, but urged that they can be easily handled, that their value is not unreasonably high, that they are not liable to damage in transit and that they are desirable traffic because of their weight and destiny. It stated that value has been disregarded in most instances in making rates on indestructible steel articles weighing 100 pounds or more. It observed that in southern classification many articles are rated in sixth class, in less than car loads, when in the rough, and fourth class when finished or semi-finished. But in western classification fourth class is the lowest less-than-car-load rating, and the result not infrequently is that an article takes the same rating whether finished or unfinished.

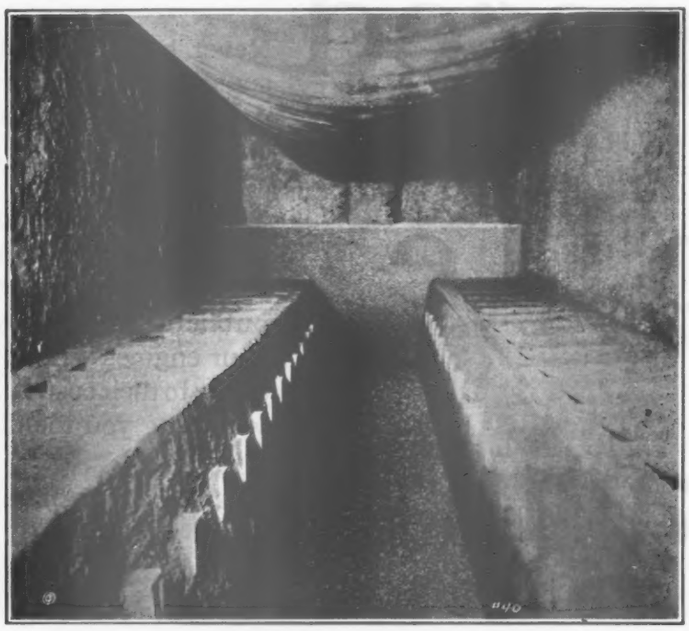
The record does not support a finding of unjust discrimination or undue prejudice, the commission stated, adding:

"We find that the first class rating and rates on rotary tool joints, loose, in less than car loads, shipped from Houston, Tex., to interstate destinations, under tariffs governed by the western classification, have been, are, and for the future will be unreasonable to the extent they exceeded, exceed or may exceed the contemporaneous second class rating and rates."

Complainant has been damaged to the extent that the rate exceeded the second class rating and rates, and is entitled to reparation, with interest, the commission further held:

"We further find that the second class rating and rates under the western classification on rotary drill bits, fishing taps, milling tools and weight indicators and the failure of defendants to include weight indicators in the classification list of oil well outfits and supplies have not been shown to be unreasonable or otherwise unlawful."

FEATURING DIFFUSING FURNACE



Designed to give closer control of still temperatures, the Plibrico Jointless Firebrick Co. is featuring its Plibrico diffusing furnace. Equipped with two burners located on either side of the furnace the flames are confined to the tunnels which extend almost the entire length of the furnace. The flame does not come in contact with the still bottom and in this manner overheating is eliminated.

Why Not CUT Thru

Cutting and chipping; cutting and chipping—that's the principle that makes for fast hole.

Why sit on a rock for hours when a Reed will cut right through?

Keep a Reed Rock Bit on the derrick floor to cut your rock.

The cross section of the cutters, with sharp, chipping blows, doubly delivered at each rotation of the drill stem, guarantees that this bit will cut faster than any other rock tool on the market.

Reed Rock Bits

Reed Roller Bit Company

HOUSTON LOS ANGELES

Government's Preliminary Report for the Year 1925

PRODUCTION OF CRUDE PETROLEUM BY STATES—PRELIMINARY

(Petroleum transported from producing properties. Thousands of barrels of 42 U. S. gallons.)

Final figures will include petroleum consumed on the leases and produced but not transported from producing properties, which items for the past few years have amounted to approximately 1 per cent of the total.

State—	January	February	March	April	May	June	July	August	Sept.	October	Nov.	December	1925	1924†
Arkansas	3,037	2,739	3,071	5,452	10,032	9,166	7,991	7,595	6,695	6,389	5,988	5,994	74,749	46,029
California*	18,743	16,870	18,626	17,960	18,820	19,288	20,411	21,006	20,063	20,015	19,096	19,250	230,148	228,933
Colorado	58	53	80	64	70	54	89	94	136	143	165	158	1,164	445
Illinois	662	603	728	585	661	665	689	645	667	677	638	636	7,856	8,081
Indiana	71	68	68	75	70	74	75	66	68	66	60	64	825	935
Southwestern	56	53	50	57	54	57	59	51	54	54	49	53	647	666
Northeastern	15	15	18	18	16	17	16	15	14	12	11	11	178	269
Kansas	2,437	2,517	2,831	2,937	3,441	3,554	3,616	3,592	3,421	3,453	3,272	3,213	38,284	28,836
Kentucky	576.7	545.4	593.4	578.7	579.7	567.3	599.7	557	562.8	553.9	533.3	516.1	6,764	7,407
Louisiana	1,661	1,495	1,667	1,645	1,759	1,657	1,705	1,718	1,669	1,717	1,650	1,670	20,013	21,124
Gulf Coast	215	187	217	205	248	204	251	258	286	345	355	338	3,109	2,487
Rest of State	1,446	1,308	1,450	1,440	1,511	1,453	1,464	1,460	1,383	1,372	1,295	1,332	16,904	18,637
Montana	236	226	238	241	289	321	357	401	388	474	481	382	4,029	2,815
New Mexico	14	10	29	50	51	69	91	120	127	145	138	132	976	98
New York	119	115	139	134	135	140	148	146	143	149	142	148	1,658	1,440
Ohio	557	539	599	615	591	630	631	610	611	617	560	608	7,168	6,811
Central and Eastern	406	389	434	443	424	449	454	443	446	456	419	462	5,225	4,798
Northwestern	151	150	165	172	167	181	177	167	165	161	141	146	1,943	2,018
Oklahoma	14,975	13,922	14,774	14,798	14,711	14,629	14,745	14,875	15,276	15,070	14,850	14,135	176,760	173,538
Osage County	2,558	2,211	2,490	2,475	2,451	2,429	2,451	2,385	2,306	2,262	2,110	2,092	28,220	38,963
Rest of State	12,417	11,711	12,284	12,323	12,260	12,200	12,294	12,490	12,970	12,808	12,740	12,043	148,540	134,575
Pennsylvania	605	585	666	677	650	680	684	674	673	679	617	634	7,824	7,486
Tennessee	.3	.6	.6	1.3	1.3	1.7	1.3	2	1.2	2.1	4.7	5.9	23	10
Texas	12,969	11,097	12,664	12,610	13,295	12,319	12,488	11,756	11,181	11,209	10,469	10,561	142,618	134,521
Gulf Coast	1,798	1,670	2,428	2,511	2,834	2,606	2,729	2,503	2,462	2,422	2,189	2,197	28,349	26,082
Rest of State	11,171	9,427	10,236	10,099	10,461	9,713	9,759	9,253	8,719	8,787	8,280	8,364	114,269	108,440
West Virginia	476	447	489	493	478	512	502	477	486	504	437	475	5,776	5,920
Wyoming	2,322	2,213	2,575	2,515	2,448	2,348	2,495	2,553	2,540	2,489	2,358	2,361	29,217	39,498
Salt Creek	1,783	1,664	1,925	1,808	1,655	1,643	1,773	1,880	1,923	1,894	1,787	1,732	21,467	30,874
Rest of State	539	549	650	707	793	705	722	673	617	595	571	629	7,750	8,624
Total	59,519	54,045	60,433	61,431	68,082	66,675	67,318	66,887	64,708	64,352	61,459	60,943	755,852	713,940
Classification‡ by gravity (approx.):														
Light crude	46,362	42,166	46,305	45,256	46,214	45,243	45,796	45,799	45,172	45,323	43,586	42,966	540,188	543,678
Heavy crude	13,157	11,879	14,128	16,175	21,868	21,432	21,522	21,088	19,536	19,029	17,873	17,977	215,664	170,262

*California: Preliminary figures (1925) from American Petroleum Institute; final figures (1924) from California State Mining Bureau.
†Includes 13,000 bbls. produced in Alaska and Utah.
‡East of California light crude 24 degrees A.P.I. and above; California 20 degrees A.P.I. and above.

PRODUCTION OF CRUDE PETROLEUM BY FIELDS—PRELIMINARY

(Thousands of barrels of 42 U. S. gallons.)

Field—	January	February	March	April	May	June	July	August	Sept.	October	Nov.	December	1925	1924
Appalachian	2,182	2,082	2,322	2,327	2,268	2,350	2,389	2,299	2,312	2,344	2,153	2,241	27,270	27,056
Lima-Indiana	166	166	183	190	183	198	193	182	179	173	152	167	2,121	2,287
Illinois and Southwest Indiana	718	656	778	642	715	722	748	696	721	731	687	689	8,503	8,747
Mid-Continent	33,066	29,913	32,962	34,726	40,156	38,515	37,565	36,775	35,494	35,071	33,685	33,038	420,966	375,479
Gulf Coast	2,013	1,857	2,645	2,716	3,083	2,810	2,980	2,761	2,748	2,767	2,544	2,535	31,458	28,569
Rocky Mountain*	2,630	2,502	2,917	2,870	2,868	2,792	3,032	3,168	3,191	3,251	3,142	3,033	35,386	42,869
California	18,743	16,870	18,626	17,960	18,820	19,288	20,411	21,006	20,063	20,015	19,096	19,250	230,148	228,933
Total	59,519	54,045	60,433	61,431	68,082	66,675	67,318	66,887	64,708	64,352	61,459	60,943	755,852	713,940

*Includes Alaska and Utah.

IMPORTS AND EXPORTS OF CRUDE PETROLEUM*—PRELIMINARY

(Thousands of barrels of 42 U. S. gallons.)

	January	February	March	April	May	June	July	August	Sept.	October	Nov.	December	1925	1924
Imports	7,025	5,580	6,375	5,415	6,484	5,153	4,283	4,045	4,027	4,367	4,891	4,360	62,005	77,775
From Mexico	6,462	4,951	5,992	4,688	6,083	4,898	3,908	3,638	3,522	4,079	3,599	3,291	55,111	73,979
From other countries	563	629	383	727	401	255	375	407	505	288	1,292	1,069	6,894	3,796
Exports	1,149	1,122	1,057	798	1,376	1,255	1,302	1,465	922	1,290	740	877	13,353	17,973
Domestic crude oil:														
To Canada	654	546	765	626	642	810	884	1,111	586	1,026	508	757	8,915	10,992
To other countries	480	566	272	165	706	427	386	335	304	252	229	120	4,242	6,613
Foreign crude oil	15	10	20	7	28	18	32	19	32	12	3	...	196	368

*Bureau of Foreign and Domestic Commerce.

STOCKS OF CRUDE PETROLEUM HELD IN THE UNITED STATES—PRELIMINARY

(Thousands of barrels of 42 U. S. gallons.)

AT REFINERIES: Reported by location of storage:	Jan. 31, 1925	February	March	April	May	June	July	August	September	October	November	Dec. 31, 1925	Dec. 31, 1924
East Coast:													
Domestic*	8,523	7,734	8,081	8,504	8,200	8,784	8,601	7,122	7,643	6,079	5,134	4,801	8,230
Foreign	2,029	2,446	2,665	1,900	1,859	2,100	2,209	2,370	2,258	2,290	2,550	2,650	1,462
Appalachian	1,282	1,218	1,190	1,210	1,165	1,253	1,307	1,302	1,335	1,374	1,402	1,507	1,306
Indiana, Illinois, etc.	1,855	1,800	1,479	1,574	1,549	1,558	1,438	1,148	924	1,091	1,116	1,318	1,762
Oklahoma, Kansas, etc.	5,507	5,955	4,939	4,868	4,975	5,422	5,290	4,696	4,422	3,793	3,578	3,422	5,468
Texas:													
Inland	1,138	1,228	1,133	1,282	1,139	1,120	1,289	1,131	1,131	984	1,116	944	1,310
Gulf Coast:													
Domestic	4,897	4,688	4,374	4,438	4,821	5,529	5,496	5,153	5,390	5,169	5,329	5,616	4,837
Foreign	543	655	519	556	726	651	663	530	580	610	491	341	358
Arkansas and Inland Louisiana	292	343	413	403	598	678	604	574	716	715	926	656	267
Louisiana, Gulf Coast:													
Domestic	3,755	4,128	4,813	4,660	4,272	3,983	4,533	3,834	3,725	3,384	2,784	3,242	3,763
Foreign	1,623	1,865	1,930	1,797	1,730	1,423	1,421	1,404	1,042	1,095	1,178	1,197	1,474
Rocky Mountain	931	886	1,078	1,262	1,380	1,381	1,456	1,451	1,494	1,449	1,540	1,463	957
UNITED STATES TOTAL, east of California	32,366	32,946	32,613	32,454	32,415	33,882	34,307	30,715	30,660	28,033	27,144	27,157	31,184
ELSEWHERE THAN AT REFINERIES: By field of origin (net stocks):													
Appalachian:													
New York, Pennsylvania, West Virginia, East and Central Ohio	7,060	7,111	7,038	6,996	6,952	7,031	6,874	6,854	6,860	6,820	6,924	6,745	7,029
Kentucky	2,272	2,333	2,242	2,146	2,085	1,954	1,901	1,868	1,827	1,706	1,754	1,747	2,266
Lima-Indiana	1,183	1,190	1,161	1,154	1,209	1,150	1,126	1,097	1,100	1,058	1,035	971	1,221
Illinois and Southwest Indiana	10,845	10,813	10,936	10,982	11,060	10,986	10,886	10,954	10,620	10,574	10,577	10,582	10,870
Mid-Continent:													
Oklahoma, Kansas; Central, North and West Texas	174,412	173,510	172,937	171,565	170,911	166,204	163,348	161,627	159,346	159,108	158,124	153,513	176,754
Northern Louisiana and Arkansas	33,479	33,147	32,757	33,744	37,207	39,436	39,708	40,011	41,024	41,598	42,056	42,923	33,804
Gulf Coast	19,203	18,949	19,517	19,676	20,325	20,443	20,791	20,520	20,225	19,976	19,813	19,263	20,200
Rocky Mountain	28,786	28,939	28,957	28,942	28,895	28,756	28,572	28,548	28,580	28,563	28,684	28,980	28,672
UNITED STATES TOTAL, east of California	277,240	275,992	275,536	275,205	278,644	275,960	273,206	271,479	269,582	269,403	268,967	264,724	280,807
FOREIGN CRUDE:													
Atlantic Coast	187	204	220	231	150	79	173	197	143	47	79	104	199
Gulf Coast	406	330	179	492	876	811	743	613	596	480	500	303	535
Total domestic and foreign stocks of crude petroleum east of California	310,199	309,462	308,548	308,382	312,085	310,732	308,429	303,004	300,981	297,963	296,690	292,288	312,725
CLASSIFICATION BY GRAVITY (approx.):													
East of California (not at refineries):													
Light crude (24 degrees and above)	.....	.....	.....	.....	.....	.....	.....	226,329	222,836	221,991	221,104	216,882	.....
Heavy crude (below 24 degrees):													
Domestic	.....	.....	.....	.....	.....	.....	.....	45,150	46,746	47,412	47,863	47,842	.....
Foreign	593	524	399	723	1,026	890	916	810	739	527	579	407	734
CALIFORNIA:													
Light	42,102	42,706	43,577	44,543	45,359	45,226	44,269	†41,300	42,759	43,773	44,426	44,323	40,518
Heavy	56,812	57,777	58,693	60,506	62,770	64,977	69,159	†75,659	78,905	80,596	81,807	81,806	55,960

*Includes some California crude oil.
†1,179,865 bbls. refinable crude transferred to heavy crude stocks in August.

NUMBER OF PRODUCING OIL WELLS COMPLETED*

January	883	April	1,567	July	1,791	October	1,420	1925	16,537
February	990	May	1,671	August	1,580	November	1,182	1924	14,597
March	1,089	June	1,706	September	1,501	December	1,147		

*For States east of California, from The Oil and Gas Journal; for California, from the American Petroleum Institute.

INDICATED DOMESTIC CONSUMPTION OF CRUDE PETROLEUM (EXCLUSIVE OF CALIFORNIA GRADES) AND SUPPLEMENTAL DATA—PRELIMINARY

(Production plus imports plus stocks first of period minus exports and stocks end of period.)
(Thousands of barrels of 42 U. S. gallons.)

	January	February	March	April	May	June	July	August	Sept.	October	Nov.	December	1925	1924
Crude oil run to refinery stills	42,853	39,680	43,785	43,991	46,698	47,696	48,906	47,604	44,951	45,886	43,233	44,092	539,375	.....
Indicated consumption of crude petroleum for fuel (including losses)	6,564	2,963	4,330	4,300	4,159	4,980	3,274	6,278	5,317	4,620	4,129	5,754	56,668	.....
Total consumption	49,417	42,643	48,115	48,291	50,857	52,676	52,180	53,882	50,268	50,506	47,362	49,846	596,043	.....
California crude held at eastern refineries at end of month*	2,452	2,405	2,262	2,137	2,223	2,001	1,708	1,344	1,606	1,174	709	751	751	2,452
Exports of crude petroleum from California*	239	320	219	162	104	260	282	360	233	506	40	226	2,951	6,642

*Deducted in calculation of consumption.

INDICATED DELIVERIES OF CRUDE PETROLEUM, EXCLUSIVE OF CALIFORNIA GRADES, TO DOMESTIC CONSUMERS—PRELIMINARY

(Thousands of barrels of 42 U. S. gallons.)

	January	February	March	April	May	June	July	August	Sept.	October	Nov.	December	1925	1924
Domestic petroleum by fields of origin:														
Appalachian	2,137	1,970	2,485	2,466	2,373	2,402	2,599	2,352	2,347	2,505	2,001	2,427	28,064	26,991
Lima-Indiana	204	158	222	187	128	257	217	211	176	215	175	221	2,371	2,044
Illinois and Southwest Indiana	743	688	655	596	637	796	848	628	1,055	777	684	684	8,791	8,967
Mid-Continent	35,733	31,147	33,925	35,111	37,347	40,993	40,149	38,193	36,762	34,735	34,211	36,782	435,088	365,656
Gulf Coast	3,019	2,111	2,077	2,557	2,433	2,692	2,632	3,032	3,043	3,016	2,707	3,085	32,395	32,709
Rocky Mountain	2,516	2,349	2,899	2,885	2,905	2,931	3,216	3,192	3,159	3,268	3,021	2,737	35,078	*34,132
Deliveries and exports	44,343	38,423	42,263	43,802	45,823	50,071	49,661	47,608	46,542	44,516	42,799	45,926	541,787	478,518
Deliveries†	43,448	37,631	41,445	43,173	44,579	49,094	48,673	46,522	45,885	43,744	42,102	45,285	531,581	462,556
Foreign petroleum	7,151	5,639	6,480	5,084	6,153	5,271	4,225	4,132	4,066	4,567	4,836	4,532	62,136	76,056
Deliveries of domestic and foreign petroleum†	50,599	43,270	47,925	48,257	50,732	54,365	52,898	50,654	49,951	48,311	46,938	49,817	593,717	540,612

*Including Alaska. †Revised to exclude exports of crude petroleum from California.

SHIPMENTS OF CALIFORNIA OIL THROUGH PANAMA CANAL TO EASTERN PORTS IN THE UNITED STATES (FROM THE PANAMA CANAL RECORD)

(In units of thousands.)

	January	February	March	April	May	June	July	August	Sept.	October	Nov.	December	1925	1924
Crude oil: Long tons	189	224	211	262	185	152	133	178	136	70	92	187	2,019	5,489
Barrels (approx.)	1,382	1,636	1,543	1,910	1,349	1,107	971	1,301	995	511	675	1,367	14,747	40,073
Refined products: Long tons	67	79	177	131	75	183	237	151	77	122	182	238	1,719	662

RUNS TO STILLS AND OUTPUT OF REFINERIES IN THE UNITED STATES BY DIVISIONS—SUBJECT TO MINOR REVISIONS 1925, BY MONTHS, AND TOTALS FOR PRECEDING YEARS

(Units of a thousand.)

	Runs to Stills (Barrels)				Blended Gasoline (Gals.)	Output								
	Crude Oils		Unfinished Oils	Nat.-Gas Gasoline		Kerosene (Gals.)	Gas and Fuel Oils (Gals.)	Lubricants (Gals.)	Wax (Lbs.)	Coke (Tons)	Asphalt (Tons)	Other Finished (Gals.)	Unfinished Oils (Gals.)	Losses (Bbls.)
	Domestic	Foreign												
East Coast	104,725	23,766	7,974	3,191	1,744,120	573,915	2,474,872	385,937	230,902	201	1,197	57,953	48,746	5,343
Appalachian	25,118	.....	959	362	426,470	143,110	241,947	189,467	32,181	16	...	14,223	13,381	1,552
Indiana, Illinois, etc.	67,159	.....	3,020	1,623	1,461,600	257,523	777,426	134,707	81,313	239	186	82,055	58,634	2,331
Oklahoma, Kansas, etc.	97,612	.....	3,452	2,767	2,016,096	381,771	1,559,373	105,740	48,970	94	1	24,765	79,790	3,866
Texas	136,705	7,577	6,146	4,175	2,231,435	561,115	2,773,384	324,068	60,548	233	366	9,814	215,278	5,716
Texas Gulf Coast	100,748	7,577	4,570	3,796	1,667,152	461,246	2,041,604	302,527	56,216	211	365	3,299	95,945	4,702
Louisiana-Arkansas	57,002	9,995	2,057	586	629,319	229,348	1,569,027	33,300	41,513	120	396	79,762	211,842	1,061
Louisiana Gulf Coast	40,763	9,995	1,615	.....	498,853	201,139	1,094,235	30,832	41,513	113	386	62,248	161,901	645
Rocky Mountain	26,164	.....	8,673	825	611,654	92,697	470,761	24,650	45,034	88	24	1,178	234,270	797
California	184,181	.....	7,302	4,239	1,765,883	270,855	5,412,282	103,147	215	...	458	70,141	408,948	1,943
Total 1925	698,666	41,338	39,583	17,188	10,886,127	2,510,334	15,279,072	1,301,016	590,576	991	2,638	339,891	1,260,883	22,668
Total 1924	597,954	45,765	†	12,671	8,959,680	2,521,109	13,459,969	1,154,927	516,491	761	2,546	346,579	†	19,590
Total 1923	538,252	42,986	†	5,487	7,555,946	2,348,935	12,074,192	1,097,368	466,647	673	2,327	213,626	†	18,921
Total 1922	434,976	65,730	†	‡	6,202,235	2,306,326	10,706,227	978,752	462,003	707	1,895	190,130	†	16,562
Total 1921	442,363	*	†	‡	5,153,549	1,945,126	9,663,816	877,651	434,884	604	1,215	†	†	15,558
Total 1920	433,915	*	†	‡	4,882,547	2,320,095	8,861,452	1,047,406	541,304	577	1,291	†	†	18,748
Total 1919	361,520	*	†	‡	3,957,867	2,341,632	7,627,289	846,760	467,235	603	902	†	††	16,015
Total 1918	326,025	*	†	‡	3,570,313	1,825,360	7,321,398	841,466	595,144	560	608	†	†	14,567
Total 1917	315,132	*	†	‡	2,850,546	1,726,769	6,513,324	763,777	481,200	539	739	†	†	13,074
Total 1916	246,992	*	†	‡	2,058,881	1,455,496	4,663,895	624,541	386,181	405	716	†	†	10,009
1925—														
January	54,125	3,209	3,915	1,319	838,652	247,727	1,171,402	103,164	54,310	76	155	21,387	115,342	1,615
February	49,774	3,218	3,316	1,314	800,442	214,421	1,058,725	100,503	47,812	76	123	18,089	112,388	1,483
March	58,269	4,138	3,218	1,401	862,574	219,908	1,203,906	113,494	53,642	79	168	26,095	125,428	1,623
April	54,544	4,636	3,767	1,412	871,492	201,163	1,230,322	107,096	48,868	81	202	25,937	124,760	1,654
May	58,167	4,213	3,271	1,531	922,046	202,559	1,274,465	109,184	50,269	88	261	35,904	105,466	2,000
June	60,861	3,986	2,820	1,429	944,175	193,664	1,360,386	104,535	43,348	87	263	31,994	91,241	2,113
July	64,985	2,593	2,957	1,327	966,908	193,471	1,444,984	104,396	46,032	89	270	31,095	102,888	1,999
August	64,267	2,743	3,515	1,346	972,689	187,984	1,404,459	112,069	47,455	88	273	42,605	112,366	2,188
September	59,385	2,893	3,057	1,365	906,109	197,834	1,288,955	107,717	46,712	84	265	33,691	97,915	2,125
October	60,862	3,268	3,124	1,426	944,433	215,158	1,321,653	109,534	50,182	87	284	25,034	91,554	1,999
November	56,986	3,535	3,216	1,658	922,058	212,665	1,229,771	110,467	49,087	82	218	27,868	88,167	1,856
December	59,441	2,906	3,407	1,640	934,549	223,780	1,298,045	113,857	52,859	74	156	20,292	93,467	2,013
Total	693,666	41,338	39,583	17,188	10,886,127	2,510,334	15,279,072	1,301,016	590,576	991	2,638	339,891	1,260,883	22,668

*Combined with domestic. †Not available on a comparable basis. ‡Not available.

COMPARATIVE ANALYSES OF MAJOR REFINED PRODUCTS, BY MONTHS (GALLONS)

(Subject to possible revision.)

	Gasoline					Kerosene				
Month—	Production	Imports*	Exports*	Stocks End of Month	Domestic Demand	Production	Imports*	Exports*	Stocks End of Period	Domestic Demand
December, 1924	795,613,000	14,709,000	101,338,000	1,294,472,000	857,967,000	243,832,000	89,000	86,248,000	360,956,000	152,400,000
January, 1925	838,652,000	14,448,000	98,962,000	1,452,197,000	595,413,000	247,727,000	73,000	70,348,000	394,638,000	143,770,000
February	800,442,000	12,033,000	103,141,000	1,618,891,000	543,640,000	214,421,000	74,000	55,344,000	435,376,000	118,613,000
March	862,574,000	14,543,000	123,756,000	1,747,199,000	625,053,000	219,908,000	41,000	81,866,000	456,064,000	117,395,000
April	871,492,000	10,241,000	109,750,000	1,720,877,000	798,305,000	201,163,000	72,000	80,481,000	434,674,000	142,144,000
May	922,046,000	16,945,000	101,159,000	1,716,922,000	841,787,000	202,559,000	553,000	57,587,000	452,809,000	127,390,000
June	944,175,000	16,128,000	113,659,000	1,695,216,000	868,250,000	193,664,000	107,000	69,672,000	472,371,000	104,536,000
July	966,908,000	16,845,000	105,108,000	1,610,790,000	963,071,000	193,471,000	80,000	72,367,000	444,020,000	149,535,000
August	972,689,000	13,180,000	124,042,000	1,540,716,000	921,801,000	187,984,000	46,000	81,685,000	401,490,000	148,874,000
September	906,109,000	7,633,000	91,441,000	1,514,150,000	848,867,000	197,834,000	1,742,000	68,112,000	352,656,000	180,298,000
October	944,433,000	9,009,000	106,570,000	1,529,248,000	831,774,000	215,158,000	80,000	87,937,000	335,001,000	144,956,000
November	922,058,000	15,684,000	118,999,000	1,589,880,000	758,111,000	212,665,000	92,000	78,963,000	314,554,000	154,241,000
December	934,549,000	13,448,000	133,727,000	1,648,328,000	755,822,000	223,780,000	53,000	75,875,000	299,190,000	163,322,000
Total 1925	10,886,127,000	160,137,000	1,330,314,000	.....	9,362,094,000	2,510,334,000	3,012,000	880,238,000	.....	1,694,874,000
Total 1924	8,959,680,000	145,023,000	1,216,601,000	.....	7,770,238,000	2,521,109,000	3,418,000	922,353,000	.....	1,641,911,000

	Gas and Fuel Oils					Lubricants				
Month—	Production	Imports	Exports*	Stocks End of Month†	Domestic Demand	Production	Imports*	Exports*	Stocks End of Period	Domestic Demand
December, 1924	1,199,093,000	46,189,000	111,988,000	821,369,000	.....	104,391,000	23,000	29,060,000	269,641,000	59,326,000
January, 1925	1,171,402,000	44,246,000	103,092,000	773,863,000	.....	103,164,000	58,000	39,755,000	280,159,000	52,949,000
February	1,058,725,000	59,555,000	109,458,000	795,872,000	.....	100,503,000	32,000	26,950,000	286,431,000	67,313,000
March	1,203,906,000	55,320,000	132,571,000	801,767,000	.....	113,494,000	74,000	37,658,000	299,858,000	67,652,000
April	1,230,322,000	47,189,000	120,238,000	860,706,000	.....	107,096,000	270,000	38,851,000	290,004,000	78,400,000
May	1,274,465,000	45,778,000	151,274,000	946,782,000	.....	109,184,000	446,000	38,504,000	292,112,000	69,018,000
June	1,360,386,000	69,221,000	143,594,000	1,082,056,000	.....	104,535,000	249,000	31,334,000	278,610,000	86,952,000
July	1,444,984,000	48,671,000	131,738,000	1,168,487,000	.....	104,396,000	117,000	32,997,000	287,570,000	62,556,000
August	1,404,459,000	40,672,000	105,955,000	1,254,228,000	.....	112,069,000	176,000	36,615,000	282,513,000	80,687,000
September	1,280,955,000	37,402,000	117,934,000	1,256,435,000	.....	107,717,000	26,000	23,654,000	283,926,000	82,676,000
October	1,321,652,000	30,696,000	121,674,000	1,215,829,000	.....	109,534,000	42,000	31,801,000	286,595,000	75,105,000
November	1,229,771,000	22,651,000	133,316,000	1,145,181,000	.....	110,467,000	49,000	29,643,000	293,912,000	73,556,000
December	1,298,045,000	17,530,000	146,225,000	1,036,619,000	.....	113,857,000	36,000	39,763,000	305,203,000	62,839,000
Total 1925	15,279,072,000	508,930,000	1,517,069,000	.....	.....	1,301,016,000	1,574,000	407,325,000	.....	859,703,000
Total 1924	13,459,969,000	542,927,000	1,564,482,000	.....	12,282,940,000	1,154,927,000	452,000	382,343,000	.....	761,192,000

*From Bureau of Foreign & Domestic Commerce. Exports, except for wax, include shipments to Alaska, Hawaii and Porto Rico. Subject to revision.
†These stocks for east of California only.
‡Not available.

INDICATED OUTPUT OF MOTOR FUEL IN THE UNITED STATES—GALLONS

	January-June	July	August	September	October	November	December	Total 1925
Gasoline produced at refineries	5,239,400,000	966,900,000	972,700,000	906,100,000	944,400,000	922,100,000	934,500,000	10,886,100,000
Natural-gas gasoline produced at plants	815,800,000	90,800,000	92,700,000	93,100,000	102,100,000	102,800,000	107,600,000	1,104,900,000
Benzol production (approximate)	38,500,000	6,200,000	6,200,000	6,200,000	6,500,000	7,000,000	7,400,000	78,000,000
Less raw gasoline blended at refineries	353,500,000	55,700,000	56,500,000	57,300,000	60,400,000	69,600,000	68,900,000	721,900,000
Less raw gasoline run through refinery pipe lines	48,900,000	9,000,000	9,800,000	10,200,000	9,700,000	9,400,000	10,200,000	107,200,000
Total United States	5,391,300,000	999,200,000	1,005,300,000	937,900,000	982,900,000	952,900,000	970,400,000	11,239,900,000
Daily average	29,800,000	32,200,000	32,400,000	31,300,000	31,700,000	31,800,000	31,300,000	30,800,000

NATURAL-GAS GASOLINE AND MOTOR FUEL STATISTICS, 1925—SUMMARY OF PLANT OPERATIONS (GALLONS)

	December, 1924	January-June	July	August	September	October	November	December	Total 1925
Stocks of raw gasoline at end of period	12,700,000	14,500,000	12,200,000	12,900,000	12,100,000	14,800,000	13,000,000	13,800,000	.....
Production of raw gasoline	.....	515,800,000	90,800,000	92,700,000	93,100,000	102,100,000	102,800,000	107,600,000	1,104,900,000
Indicated consumption of raw gasoline	.....	514,000,000	93,100,000	92,000,000	93,900,000	99,400,000	104,600,000	106,800,000	1,103,800,000
Raw gasoline used in blends*	.....	18,594,000	3,476,000	2,560,000	2,936,000	3,175,000	2,935,000	3,228,000	36,905,000
Naphtha used in blends*	.....	36,375,000	6,757,000	4,182,000	6,487,000	6,763,000	6,595,000	6,047,000	73,206,000
Stocks of blends at end of period	2,094,000	2,062,000	1,847,000	1,712,000	2,066,000	2,851,000	3,198,000	3,301,000	.....

*Exclusive of California.

PRODUCTION OF RAW NATURAL-GAS GASOLINE BY DIVISIONS*—GALLONS

	January-June	July	August	September	October	November	December	Total 1925
New York, Pennsylvania, Eastern Ohio and West Virginia	47,100,000	5,800,000	6,300,000	6,400,000	8,900,000	8,900,000	10,800,000	94,200,000
Western Ohio, Indiana, Kentucky and Illinois	10,400,000	1,700,000	2,100,000	1,800,000	1,900,000	1,800,000	1,800,000	21,500,000
Oklahoma and Kansas	184,700,000	33,700,000	33,700,000	34,200,000	39,500,000	38,600,000	39,400,000	403,800,000
Texas	89,300,000	16,500,000	15,100,000	15,100,000	14,800,000	16,700,000	17,200,000	184,700,000
Louisiana and Arkansas	1,500,000	5,400,000	5,800,000	5,500,000	5,600,000	5,400,000	5,600,000	64,800,000
Rocky Mountain	14,000,000	3,300,000	3,400,000	3,500,000	2,900,000	2,800,000	2,800,000	32,700,000
Total east of California	377,000,000	66,400,000	66,400,000	66,500,000	73,600,000	74,200,000	77,600,000	801,700,000
California	138,800,000	24,400,000	26,300,000	26,600,000	28,500,000	28,600,000	30,000,000	303,200,000
Total United States	515,800,000	90,800,000	92,700,000	93,100,000	102,100,000	102,800,000	107,600,000	1,104,900,000
Daily average	2,850,000	2,929,000	2,990,000	3,103,000	3,294,000	3,427,000	3,471,000	3,027,000

*Estimated in part.

REVISED STOCK FIGURES FOR CALIFORNIA AND RESULTANT REVISED TOTALS FOR THE UNITED STATES
(Thousands of gallons.)

Under a new basis, effective May, 1925, California stocks (unlike the rest of the country) now include distributing station stocks and may be defined as follows: "Total stocks held by the California refining companies in the United States proper and west of the Rocky Mountains." Back figures under this basis have been supplied back to June, 1923, and are given below with the new totals for the United States as a result of this change.

	Refinable* Crude (Bbls.)	Heavy† Crude (Bbls.)	Gasoline (Gals.)‡	Kerosene (Gals.)	Lubricants (Gals.)	Wax (Lbs.)	Asphalt (Tons)	Other Fin. Prod. (Gals.)	Unfinished Oils (Bbls.)	Total (Bbls.)
CALIFORNIA:										
June 30, 1923	24,542	46,076	218,233	40,572	26,917	132	20	8,833	12,815	90,555
July 31	26,459	46,772	234,753	45,211	25,982	122	20	8,964	13,992	94,830
August 31	31,245	48,020	248,887	39,781	26,623	119	17	7,979	14,905	101,941
September 30	33,326	48,952	254,674	48,205	25,721	101	17	8,293	16,430	106,822
October 31	34,600	49,838	275,021	45,579	26,199	91	18	9,299	17,343	110,362
November 30	35,577	50,022	294,620	43,499	27,096	68	17	8,289	17,914	112,503
December 31	35,098	49,612	293,489	50,726	30,007	52	16	7,082	18,211	112,089
January 31, 1924	35,580	48,836	309,030	48,603	29,780	41	19	9,043	18,351	112,334
February 29	37,633	49,113	329,916	51,067	30,209	35	17	7,755	18,442	115,258
March 31	37,922	48,769	358,688	58,770	30,838	23	20	9,183	17,988	115,643
April 30	38,132	49,594	363,865	57,816	32,277	6	22	7,977	17,421	116,269
May 31	38,540	50,689	378,579	60,276	29,498	3	22	10,026	16,926	117,667
June 30	39,188	51,882	382,434	54,828	31,305	25	22	6,609	17,039	119,544
July 31	40,407	52,156	374,265	50,393	30,519	20	24	6,883	16,476	120,171
August 31	40,255	52,799	357,626	55,386	30,636	15	22	8,761	15,959	119,910
September 30	40,584	52,683	376,297	54,977	29,122	4	20	10,349	15,023	119,707
October 31	41,964	53,298	394,500	58,327	30,141	85	17	10,253	14,625	120,836
November 30	39,639	54,713	410,854	67,169	27,671	68	19	11,411	14,353	121,122
December 31	40,518	55,964	426,945	64,329	32,978	53	17	11,332	14,708	124,038
UNITED STATES:										
June 30, 1923			1,338,956	283,955	239,579	178,736	141	41,139	33,352	
July 31			1,263,557	287,234	238,640	174,095	139	40,890	34,371	
August 31			1,249,128	260,122	233,856	174,973	133	38,677	35,066	
September 30			1,083,280	258,526	228,325	176,915	120	37,623	36,189	
October 31		Not	1,063,452	245,666	231,968	173,426	112	37,047	37,232	
November 30		available	1,105,215	258,635	246,014	167,353	114	37,764	37,228	
December 31		on a	1,176,608	303,694	257,798	164,758	118	52,234	37,307	
January 31, 1924		comparable	1,301,833	321,532	258,466	144,717	124	50,136	37,696	Not
February 29		basis.	1,483,308	325,441	268,301	128,972	125	55,969	37,852	available
March 31			1,694,322	347,749	264,652	125,024	139	66,470	37,280	on a
April 30			1,727,267	312,328	266,179	111,014	149	73,094	37,820	compar-
May 31			1,756,489	325,854	259,638	112,951	144	80,786	37,639	able basis
June 30			1,698,115	315,730	263,959	108,160	137	71,750	37,437	
July 31			1,578,229	320,668	259,569	107,816	127	59,480	37,567	
August 31			1,416,636	327,611	256,906	103,235	126	56,767	36,475	
September 30			1,344,768	316,780	257,755	98,194	114	52,430	35,030	
October 31			1,261,852	328,570	261,346	91,095	88	50,383	34,666	
November 30			1,243,515	355,692	253,613	92,700	103	52,924	34,663	
December 31			1,294,472	360,956	268,641	84,706	97	45,726	34,467	

*24 degrees A.P.I., and above. †Includes fuel oil. ‡Includes engine distillate.

STOCKS HELD BY THE REFINING COMPANIES IN THE UNITED STATES, BY MONTHS*

	Gasoline (Gals.)	Kerosene (Gals.)	Gas and Fuel Oils (Gals.)†	Lubricants (Gals.)	Wax (Lbs.)	Coke (Tons)	Asphalt (Tons)	Other Fin. Prod. (Gals.)	Unfin. Oils (Bbls.)
December 31, 1924	1,294,472,000	360,956,000	821,869,000	269,641,000	89,706,000	97,844	97,259	45,726,000	34,467,000
January 31, 1925	1,453,127,000	394,638,000	773,853,000	280,159,000	89,006,000	111,431	121,591	40,553,000	34,502,000
February 28	1,618,891,000	435,376,000	795,872,000	286,431,000	89,326,000	125,195	123,156	41,032,000	34,134,000
March 31	1,747,199,000	456,064,000	801,757,000	299,689,000	95,077,000	133,944	134,338	42,420,000	35,544,000
April 30	1,720,877,000	434,674,000	860,706,000	290,004,000	103,310,000	146,182	136,654	47,217,000	36,511,000
May 31	1,716,922,000	452,809,000	946,782,000	292,112,000	109,822,000	165,896	151,617	50,642,000	37,348,000
June 30	1,695,216,000	472,371,000	1,082,056,000	278,610,000	110,384,000	191,575	141,687	46,888,000	38,104,000
July 31	1,610,796,000	444,020,000	1,168,787,000	287,570,000	112,942,000	213,396	160,478	43,556,000	39,393,000
August 31	1,540,716,000	401,490,000	1,254,228,000	282,513,000	117,084,000	222,461	151,010	50,575,000	40,092,000
September 30	1,514,150,000	352,656,000	1,256,435,000	283,925,000	108,679,000	250,274	143,394	46,286,000	40,023,000
October 31	1,529,248,000	335,001,000	1,215,829,000	286,595,000	113,649,000	247,434	152,386	40,168,000	39,361,000
November 30	1,589,880,000	314,554,000	1,145,181,000	293,912,000	111,231,000	248,096	162,294	37,765,000	38,093,000
December 31	1,648,328,000	299,196,000	1,036,619,000	305,203,000	116,391,000	238,403	159,424	41,884,000	38,394,000

*East of California only. †Subject to possible revision.

STOCKS OF GASOLINE HELD BY THE REFINING COMPANIES IN THE UNITED STATES, MONTHLY, BY DIVISIONS*
(Thousands of gallons.)

	East Coast	Appal'ch'n	Ind.-Ill. Etc.	Okla.-Kan. Etc.	Texas	Texas Gulf Coast	La. and Arkansas	La. Gulf Coast	Rocky Mount'n	California	U. S. Total 1925	U. S. Total 1924
December 31, 1924	204,438	26,672	159,149	121,042	154,415	136,393	85,975	81,068	115,837	426,945	.....	1,294,472
January 31, 1925	248,157	33,127	183,168	135,706	182,261	161,244	83,780	78,787	125,866	461,133	1,453,197	1,301,833
February 28	304,146	39,050	211,999	158,609	204,658	183,350	85,847	80,277	134,236	480,548	1,618,891	1,483,308
March 31	330,444	47,244	232,444	193,324	214,065	190,597	111,464	105,486	114,831	473,583	1,747,199	1,694,322
April 30	349,661	45,164	219,067	184,244	193,769	171,250	108,317	106,046	146,738	473,917	1,720,877	1,727,257
May 31	349,142	39,912	211,850	173,553	189,906	170,926	130,758	126,926	143,877	477,924	1,716,922	1,756,489
June 30	354,948	34,439	197,255	157,879	202,494	184,997	174,399	169,547	142,342	431,460	1,695,216	1,698,115
July 31	359,921	32,328	185,046	134,044	180,270	163,482	178,271	172,620	137,247	403,663	1,610,790	1,578,229
August 31	318,388	30,734	173,834	121,219	168,790	146,574	187,662	183,319	141,561	398,528	1,540,716	1,416,636
September 30	339,807	27,911	158,144	102,302	160,287	137,648	188,420	184,916	141,513	395,766	1,514,150	1,344,768
October 31	$24,542	30,470	156,477	96,474	172,397	149,529	192,514	198,349	148,697	407,677	1,529,248	1,261,852
November 30	327,716	30,158	162,265	97,389	195,248	170,710	205,975	201,793	158,514	412,621	1,589,880	1,243,515
December 31	337,629	32,328	175,418	118,546	204,314	179,764	210,594	206,242	164,283	405,216	1,648,328	.....

*Subject to possible revision.

DEATH MADE HEAVY INROADS IN PETROLEUM INDUSTRY IN 1925

JANUARY

Marquis D. Robinson, age 73; Coraopolis, Pa.; refiner and producer.

Harvey N. Hill, age 81; Kansas City, Mo.; oil producer from 1865 until his retirement.

Major Hugh Corby Savage, formerly of Belfast, Ireland; manager The Texas Co. at Johannesburg, South Africa.

John W. Wilson, age 31; January 1; Casper, Wyo.; tank builder.

Jesse W. Vaniman, age 53; Wichita, Kans.; president Southwestern Petroleum & Refining Co. of Wichita.

William P. Craig, age 67; Oil City, Pa.; retired general superintendent United Gas Co.

Patrick J. Clifford, Dunkirk, N. Y.; Oil and gas business; employed 34 years by Philadelphia Gas Co.

Clinton Moore, January 7, age 76; producer, Tulsa, Okla.

Joseph L. Murphy, January 7, age 46; treasurer Murphy Oil Co. of Pennsylvania; died in New York.

Dr. Norman Bridge, January 10, age 81; Los Angeles; vice president American Petroleum & Transport Co.

Dennis O'Conner, age 79; Butler, Pa.; producer.

Richard Aykroyd, Wainwright, Alta.; producer.

Albert McGarvey, age 74; London, Ont.; producer in Canada and Russian fields

W. J. Foster, age 70; Washington, Pa.; producer.

Hugh Thomas Hickey, Minneapolis, Minn.; sales manager W. H. Barber Co.

Walter R. Wigton, age 69; Butler, Pa.; producer.

Henry Ackerman, age 67; Rouseville, Pa.; refiner.

Charles Alvin Braley, age 66; Kansas City, Mo.; vice president Sinclair Refining Co.

Glenn Grenville Howe, age 64; Muskegon, Mich.; senior vice president Link Belt Co.

John Frye, age 80; Oil City, Pa.; drilling contractor.

FEBRUARY

James H. Kuhns, age 70; Tulsa, Okla.; producer.

L. C. Wilson, age 72; Bradford, Pa.; producer and drilling contractor.

Gale Gray, age 27; Tulsa, Okla.; field man for Jarecki Maufacturing Co., Okmulgee district.

Isaac C. Nevills, Rudolph, Ohio; operator in Canada and for 25 years in the Bradford area.

John C. Welch, age 84; Kansas City, Mo.; operator in Oil City and western Pennsylvania and later writer of scientific articles.

George F. Brigham, age 82; Tulsa, Okla.; president Commerce Petroleum Co. and manager southwestern office North American Car Co.

Lynn B. Easton, age 39; Cincinnati, Ohio; manager Laidlaw works of Worthington Corp.

Samuel N. Boyd, age 78; Pittsburgh, Pa.; producer.

Nelson Farel, age 82; Titusville, Pa.; producer.

R. M. Goldsborough, age 48; Pittsburgh, Pa.; vice president and general manager International Supply Co.

V. C. Lamb, Chatham, Ont.; formerly assistant superintendent British Petroleums, Ltd.

MARCH

Roy Reynolds, age 38; Tulsa, Okla.; independent operator.

Francis D. Murphy, age 41; Houston, Tex.; general manager and director Houston Gas & Fuel Co.

Dr. Charles Oliver Fairbanks, Santa Barbara, Calif.; producer.

H. C. Ewers, Independence, Kans.; operator in Chautauqua County, Kansas.

W. M. Osborne, age 62; Tulsa, Okla.; former operator in Pennsylvania fields.

Julian James Stearns, Okmulgee, Okla.; drilling contractor.

John Warwick, age 73; London, Ont.; producer.

Arthur W. Lewis, age 72; McKeesport, Pa.; independent operator; formerly associated with T. N. Barnsdall.

James P. Booth, Lobitos, Peru; driller for International Petroleum Co.

W. M. Hanifan, age 77; Toledo, Ohio; veteran employe of Buckeye Pipe Line Co.

James W. Green, age 79; Pittsburgh, Pa.; Pipe Liner.

Grant C. Stebbins, age 62; Tulsa, Okla.; producer.

George P. Tadder, age 80; Chicora, Pa.; producer.

W. M. Egger, age 77; Clarion, Pa.; contractor and driller.

Col. W. H. Peck, age 67; Tulsa, Okla.; oil writer.

Timothy J. Driscoll, age 62; Indianapolis, Ind.; vice president and general manager Union Development Co.; director Union Gas Co. of Canada; Driscoll Pipe Line Co., Mexia, Tex.

APRIL

Murray H. Warren, age 71; Pasedena, Calif.; former vice president and general manager North American Oil & Refining Co.; later with Great Basin Oil Co., Holbrook, Ariz.

Harry F. Williams, age 48; Toledo, Ohio; producer.

Charlie Coffin, age 78; Bradford, Pa.; producer.

M. J. Callahan, age 67; Lima, Ohio; retired employe of Buckeye Pipe Line Co.

Joseph H. Daniels, age 64; Bradford, Pa.; pipe line builder.

(Continued on Page 72)

POWER and ENDURANCE such as trucks have never had before made possible by these features

53 Horsepower Engine

An engine powerful enough to master any job a truck is ever up against.

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Two separate pairs of constant mesh gears give the countershaft two separate speeds. By merely shifting the range lever (which is easily accessible from the drivers seat) the power can be transmitted either through the low super-power range for "heavy going", or through the high driving range for usual requirements.

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IMPROVEMENTS AT PORT ARTHUR AND SABINE LARGELY DUE TO OIL

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Mar. 8.—The oil industry has a direct interest in improvements under way in every port of entry the world over, but particularly of the United States. Points of shipment have long ceased to be important because of merely natural advantages. Not only the activity of the War Department through its Board of Engineers for Rivers and Harbors, but also the enterprising spirit of each local community with seaport facilities are today the most important elements for the promotion of exports and imports from the contiguous territory. Many changes are today in progress in the various seaports of the United States which makes each of these seaports a separate problem not only for the exporter of oil but for the sale of bunker oil which of course keeps pace with the activity of the port.

The great development of Port Arthur and Sabine, Tex., has largely depended upon engineering improvements that have made those harbors accessible. This should be an example to many other seaport towns. The War Department is required by law to assist the various ports in the design and construction of modern port terminals of such character as to handle the particular business of the port in the most expeditious and economical manner. The same may be said of the United States Shipping Board in its encouragement of an American owned merchant marine as the curtailment of the time spent by vessels in port is an important item in ship economies. Before these agencies of the Government can function in the encouragement of ports and ships both the War Department and the Shipping Board must have the facts without which the shipping business cannot be successfully conducted nor the port terminal correctly planned and economically operated.

The foregoing statement puts the business of port expansion directly up to the people of each seaport community. They should bear in mind that traffic does not always follow the shortest route, nor that having the lowest line haul rate, but it will usually be found that there are sound reasons for this seeming disregard of ecomomy. The work done by the community interested in the seaport towns in order to promote shipping of various kinds counts heavily in gaining success. Every oil company selling bunker oil is deeply interested in all developments which either promote or discourage shipping, because the trend of each port is pointing the way for an enlargement of bunkering facilities or possibly for their curtailment.

Port Arthur's Growth

Port Arthur is approximately 80 miles east of Galveston and has been made important by vast engineering works which in turn have made possible the vast oil industry that finds its outlet there. The present project authorized by the act of September 22, 1922, provides for a depth of the Sabine-Neches Canal of 30 feet at mean low water except over the bar where the depth is 33 feet and width 450 feet. It is 125 feet in width from the Gulf Refining Co.'s private turning basin in Taylor's Bayou to the west turning basin at the head of old Port Arthur Canal. The Texas Co. occupies a peninsula that has about 3,500 feet frontage on the turning basin and about 3,000 feet frontage on the Sabine-Neches Canal. The Gulf Refining Co. has about 1,000 feet frontage on the turning basin at the head of Taylor's Bayou and about 1,250 feet on the bayou proper.

Facilities for oil bunkering are available at several points along the approach to Port Arthur and at the turning basin. There are four companies furnishing fuel oil at the port. These are The Texas Co., Gulf Refining Co., Magnolia Petroleum Co. and the Sun Oil Co.

The Texas Co. is located on the easterly side of the old turning basin. This company has 20 steel tanks, with a total storage capacity of 627,000 bbls. Vessels are bunkered at the wharf at the rate of 4,000 bbls. per hour. This company has also four towed barges with a capacity of from 3,000 to 5,000 bbls. each, which bunker at the rate of 1,000 bbls. per hour each.

The Gulf Refining Co. has a concrete wharf and storage facilities on the easterly side of the Taylor's Bayou, 3 miles southwest of Port Arthur. It has a total storage capacity of 2,500,000 bbls. and a bunkering capacity of 5,000 bbls. per hour. This company has towed barges with a carrying capacity of 10,000 and 2,500 bbls., respectively, which bunker at the rate of 875 bbls. per hour.

Capacities by Companies

The Magnolia Petroleum Co. and the Sun Oil Co. are located on the west side of Sabine Pass near the town of Sabine. The Magnolia Petroleum Co. has 10 steel tanks, with a total storage capacity of 500,000 bbls. Vessels are bunkered at the wharves at the rate of 4,000 bbls. per hour. The company also owns four towed barges with a carrying capacity of from 3,000 to 5,000 bbls. each, which bunker at the rate of 1,000 bbls. per hour.

The Sun Oil Co. has three steel tanks with a total storage capacity of 165,000 bbls. Vessels are bunkered at the wharves at the rate of 5,000 bbls. per hour.

On the northwest side of the oil turning basin there is a bunker coal plant with open storage for 1,000 tons, a delivery capacity of bunkering from a barge by means of a clam shell bucket of from 25 to 50 tons per hour.

There are eight wharves at the port of Port Arthur which have depths of water ranging from 26 to 30 feet at mean low water. All are of creosoted pile and timber construction except that of the Gulf Refining Co., which is of concrete construction. Four are used almost exclusively for shipping petroleum products.

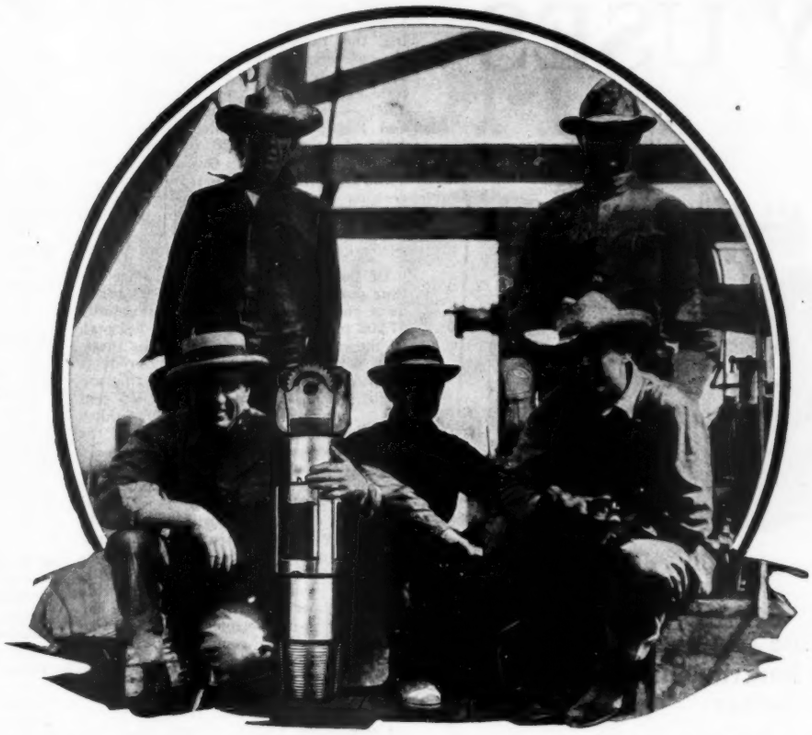
The terminals of The Texas Co. are located on a peninsula about 3,500 feet in length formed by the Sabine-Neches Canal, Taylor's Bayou and the old Port Arthur turning basin. There are three wharves fronting on the eastern side of the turning basin, 1,200 feet, 650 feet and 1,500 feet in length, respectively. These wharves are used extensively for the shipment of oil and its products. This company has a refinery about 2 miles inland which is connected with the wharves by pipe lines for loading vessels along side. By-products are brought in over a private railway spur which gives direct rail connection with the Texarkana and Fort Smith and the Southern Pacific Railroads. Conveyors and spiral gravity chutes are used for loading cased goods from wharehouses to vessels. This company owns nine warehouses of reinforced concrete and tile construction 50 feet back from the face of the wharves.

The oil storage of the terminal consists of 30 steel tanks with a total storage capacity of 350,000 bbls. Oil is brought to these tanks both by pipe lines and vessels.

Six Terminals at Sabine

The terminal of the Gulf Refining Co. is on the east side of Taylor's Bayou, 1 mile above the Port Arthur turning basin. This wharf is of concrete construction, 3,054 feet in length with a depth alongside of 26 feet at mean low water. It is used for handling fuel oil and products. It has two wooden freight sheds, with a total floor space of 32,700 square feet.

There are six terminals, located at Sabine, Tex., which have been included under the facilities at Port Arthur. Of these, three are used for storing and



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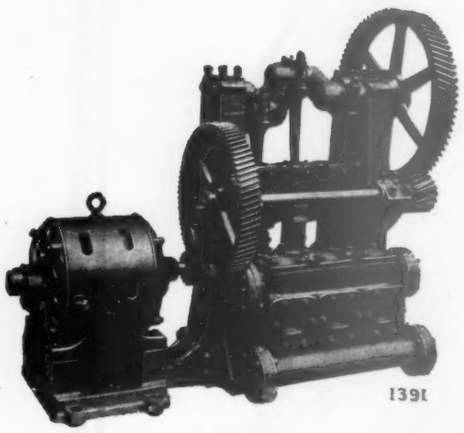

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handling oil, two for unloading fish and the manufacture of fish oil and fertilizer, and one for storing and exporting crude sulphur.

The wharf of the Sun Oil Co. and the two wharves of the Magnolia Petroleum Co. are of timber construction, with depths alongside of 27 and 28 feet at mean low tide. Oil for storage is obtained by inland pipe lines and by vessels and loaded on vessels through pipe lines located on the wharves.

Petroleum and products greatly exceeded all other commodities in point of tonnage exported from Port Arthur during the three-year period, 1920-21-22, the average annual amount shipped being 1,615,666 tons or 91.8 per cent of the total exports. The most important commodities in point of tonnage were crude and fuel petroleum which amounted to 1,174,444 tons in 1920 compared with 952,336 tons in 1922. Gasoline and kerosene comprised a large part of the petroleum products, amounting to 566,209 tons in 1920, 691,908 tons in 1921 and 408,636 tons in 1922.

Port Arthur Receipts

Of the coastwise receipts at Port Arthur during the period of 1920-22 petroleum and its products averaged annually 17,206 tons or 48.7 per cent of the total. Of the coastwise shipments for the three-year period petroleum and its products lead all other commodities averaging annually 3,600,109 tons or 99.5 per cent of the total, gasoline and kerosene taken together constituted 42.8 per cent of the total coastwise shipments.

The commerce of Sabine Pass during the three-year period 1920-22, shows that petroleum and its products and sulphur furnished the only export business. In 1920 the total exports of petroleum and its products amounted to 479,104 tons compared with 124,682 tons in 1922 and 1,643,000 tons in 1925. During the three-year period of 1920-22 of the domestic shipments petroleum and its products lead all other commodities with an average annual shipment amounting to 55.5 per cent of the total.

The developments of Port Arthur and Sabine gave the richest rewards to the oil companies first to realize what was happening to place those ports in the front rank among the great shipping ports. As there is always a saving on being on the ground early in such a development every oil company will wish to keep informed concerning the progress of every seaport in the United States. The interest in most of these seaports is not merely for the shipment of petroleum and its products but for the sale of bunker oil which keeps pace with the growth of shipping for all purposes.

DEATH TAKES HEAVY TOLL IN INDUSTRY

(Continued from Page 66)

Livingston Roe, Morristown, N. J.; retired official of Standard Oil Co.

Jasper N. Thompson, age 41; Indianapolis, Ind.; producer.

S. B. Forst, Casper, Wyo.; chief clerk Parkersburg Rig & Reel Co.

David T. Day, age 66; Washington, D. C.; former chief of mining and mineral resources, U. S. Geological Survey.

Frederick A. Stubbs, age 45; Denver, Colo.; producer.

Capt. John Joshua Haight, age 86; Warren, Pa.; producer.

John James Gascoine, age 60; Chatham, Ont.; producer.

Michael Martin Sweetman, age 61; San Antonio, Tex.; president Southern Natural Gas Co.

George W. Barber, age 68; Villa de Arriaga, Mex.; roustabout.

John Carruthers, age 70; Grove City, Pa.; president Bessemer Gas Engine Co.

MAY

Milan R. Bump, age 44; New York, N. Y.; chief engineer Henry L. Doherty Co.

Elias Alexander Weart, age 52; Pittsburgh, Pa.; general manager Jarecki Manufacturing Co.

William Galloway, age 68; Oil Springs, Ont.; driller.

John Hines, age 70; Houston, Tex.; tank builder.

J. S. Barlow, age 75; Bradford, Pa.; producer.

Charles S. Clark, age 81; New Castle, Pa.; one of the organizers of Bradford and Oil City Oil Exchanges.

C. C. Burke, age 80; Plainfield, N. J.; manager Egle Works in Jersey City.

JUNE

William Mitchell Norris, age 36; Princeton, N. J.; mining engineer and geologist with British Controlled Oil Fields.

S. C. Lowe, Houston, Tex.; natural gas man.

D. B. Dowling, age 67; Chatham, Ont.; prominent in geological research.

Thomas Gregory, age 81; Petrolia, Ont.; producer.

John Glover, San Francisco, Calif.; refiner.

JULY

John W. Hefferman, Wilmette, Ill.; sales manager for the Indian Refining Co.

George W. Blake, age 77; Petrolia, Ont., producer.

Robert C. Pew, age 63; Perrysburg, Ohio; operator, refiner.

George A. Forman, age 49; Buffalo, N. Y.; president Southampton Petroleum Co.

Andrew Rickenbrode, age 89; Oil City, Pa.; producer.

Max H. Whittier, Los Angeles, Calif.; president M. H. Whittier Co.; Midway Peerless Oil Co.; Hondo Oil Co.; Inca Oil Co.

William Carnill, Rydal, Pa.; producer.

Oscar Orndoff, Wayneburg, Pa.; gas operator.

John G. McDermott, age 40; Davis City, Pa.; producer.

AUGUST

J. C. Helm, age 65; Warren, Pa.; lease owner.

William Shaffer, age 85; Franklin, Pa.; producer.

Charles Wilson, age 88; Petrolia, Canada; receiver of oil.

Anson A. Gard, age 75; Buffalo, N. Y.; field manager for Beaver Petroleum Co.

Frederick Morck, Warren, Pa.; producer.

Charles E. Reed, age 44; Los Angeles, Calif.; treasurer Cowan Oil & Refining Co.

George E. McCall, London, Ont.; driller in Persia and other foreign fields.

M. G. McCaslin, age 63; Kansas City, Mo.; producer.

L. A. McCall, age 45; Tampico, Mex.; driller.

B. A. McLemore, age 22; Shreveport, La.; employe of Gulf Refining Co.

Herbert P. Rhees, Tulsa, Okla.; assistant superintendent of production for Prairie Oil & Gas Co.

W. M. Lamb, age 36; Breckenridge, Tex.; president Lewalt Drilling Co.

A. P. Stephenson, age 34; Cacalilao, Mex.; superintendent of International Petroleum Co.'s camp at Chijol.

"Uncle Nap" Brown, age 80; El Dorado, Ark.; retired producer.

William Richards, age 81; Wallaceburg, Ont.; former operator in Oil Springs Field.

Walter L. Dickinson, Shreveport, La.; independent operator.

Clark C. Denny, age 36; Denver, Colo; independent operator in Blackwell, Okla., Field.

SEPTEMBER

W. B. Stewart, Charlevoix, Mich.; producer.

Lyle Dellaney, age 26; Augusta, Kans.; superintendent of refining for Grant Oil Co.

L. W. Riddle, Chatham, Ont.; manager Saskatoon, Sask., branch Prairie Oil & Gas Co.

Glenn B. Morgan, Rolla, Mo.; geologist.

Frederick A. Hoffman, age 58; Port Arthur, Tex.; in charge of pipe line department, Gulf Refining Co.

A. C. Bedford, age 61; East Norwich, Long Island; chairman of board Standard Oil Co. of New Jersey.

OCTOBER

Melville G. Caldwell, age 39; Dallas, Tex.; purchasing agent for Atlantic Oil Producing Co.

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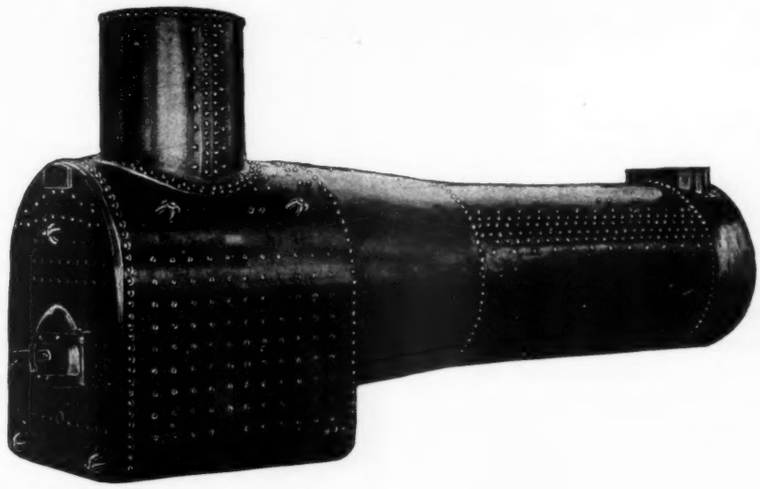

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PITTSBURGH, PA.

Eclipse Deepwell Pulling Machine

That one company recently purchased 6 of these machines to be used in a country 6,000 miles from the United States is proof this Pulling Machine is good.

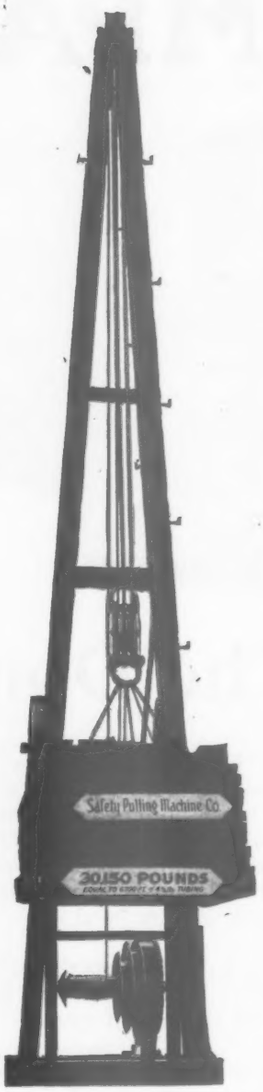
Eclipse Deepwell up to 8000 ft. 2" Tubing Weight 3645

Wreckers also made to order, approximate weight 5000 lbs. One of our customers stated that he has pulled a weight equal to 100 tons with one of these machines.

Specifications Deep Well

Mast 8x10x36 ft., Douglass Fir A-Style Two Wheel Truck, two 16" Bronze bearing crown pulleys, 2½ Steel Pin mounted in malleable boxings. Large supporting plate 16" dia. between crown pulleys, eliminating any chance of bending pin.

Reel or Drum; 32 lb. 8¼ casing filled with concrete for winding drum, differentials banded with 3/16 band iron, brake surface 6"x40", choke brake style same as Star drilling machine.



The whole reel assembly is mounted on 2¾ square steel shaft extending clear through reel, secured by three heavy castings.

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Manufactured by

SAFETY PULLING MACHINE COMPANY
INDEPENDENCE, KANSAS

J. W. Willis, Pittsburgh, Pa.; drilling contractor.

E. R. Shepard, age 71; Oil City, Pa.; vice president and treasurer of Southern Group of Pipe Lines, South West Pennsylvania Pipe Line, Southern Pipe Line, Eureka Pipe Line and Cumberland Pipe Line.

Judge Stephen M. Douglas, Mansfield, Ohio; general counsel of Logan Gas Co.

Forrest M. Towl, Jr., age 28; Cleveland, Ohio.

NOVEMBER

Frank Mockwart, age 60; Fletcher, Ont.; rig builder.

S. W. Munn, age 76; Glendora, Calif.; tool fisher.

Silas Peterson, age 72; Toledo, Ohio; producer .

T. F. Manville, New York, N. Y.; chairman board of directors, Johns-Manville, Inc.

J. A. Hershberger, South Pasedena; drilling contractor.

James Hartnett, age 74; pipe line man with National Transit Co.

Col. U. G. Lyons, age 58; Warren, Pa.; president and general manager, Conewango Refining Co.

James Fraser Murray, age 81; Chester, W. Va.; producer.

George J. Wolf, age 73; Meadville, Pa.; legal department, Benedum & Trees Oil Co.

DECEMBER

Henry C. Roess, age 58; Oil City, Pa.; had been in service of National Transit Co.

Fred Orgel, Detroit, Mich; operator.

W. J. Neuenschwander, age 59; Sistersville, W. Va.; operator and natural gasoline manufacturer.

Edwin D. Willibey, age 30; Bradford, Pa.; nitroglycerin worker.

David F. Connolly, age 66; Tulsa, Okla.; D. F. Connolly Agency, oil field supplies.

Emil Deen, Paris, Fance; one of the organizers of Oklahoma Producing & Refining Corp.

Alexander Gillespie, age 79; Petrolia, Ont.; oil operator.

J. S. Mechling, Casper, Wyo.; district manager Oil Well Supply Co.

Lemon G. Neely, St. Marys, Ohio; producer.

KENTUCKY-TENNESSEE

(Continued from Page 50)

failure at a depth below 1,200 feet. T. A. Sheridan's No. 1 and No. 4 on the C. G. Davenport No. 1 tract are both due for completion in the deep sand, as well as his No. 4 well on the G. C. Davenport Atty. No. 3 tract. Lincoln Oil Producing Co. is making a deep test of No. 3 E. and G. Davidson tract and down close around 1,000 feet at No. 4, same farm. Onsel-Hanrahan Oil Co.'s No. 9 Brownfield is close around 1,000 feet deep. New Domain Oil & Gas Co. is pumping salt water at 700 feet in No. 4 Bessie Snell Clark lease. Moken Oil Co. is down around 500 feet at No. 5 J. M. Morgan. Zev Oil Co.'s No. 3 E. G. Savage is close around 500 feet. William Zimmer has shut down No. 10 John W. Covington, Block 7, at 395 feet. Caskey and Pryor's No. 8 W. R. Price, close around 200 feet, as is Dr. W. B. Gauble Atty.'s No. 5 J. T. Vance lease.

Cumberland County

The leading producer of the week in the Western Kentucky division was credited to Cumberland County, and is No. 2 of the Alta Oil Co. on the O. E. Cheatham farm, in the northern division of the county, near the Adair County line, in the Crocus Creek district. Top of the Sunnybrook sand was struck at 251 feet and went to a total depth of 271 feet or 20 feet in the sand, where the well is credited with a flush of 75 bbls. The casing, 6¼-inch, was set to a depth of 135 feet. This makes the third good well to be found in what should be called the "Cheatham Pool." This company's first test in that area, and on the Elam Cheatham farm, on the West Fork of Crocus Creek, and 10 miles from production, completed last September, showed 250 bbls. from the First Sunnybrook sand at 265 feet. In October the same company drilled a well on the Dick Cheatham farm, adjoining the discovery well, which came in at a reported flush of 1,500 bbls. per day from the same sand at 256 feet.

As to the status of the wildcat well drilled by Wood & Haslet in the Crocus Creek district, which was drilled in some time ago and filled a 250-bbl. tank in 31 hours, that being all the available storage on the lease, more tankage has been set and a power plant is being installed and the well will soon be pumping.

In the Crocus Creek district, on the West Fork of Crocus Creek, Sam K. Baird reports his No. 1 Brockman drilling at 520 feet, set 142 feet 6¼-inch casing. The First Sunnybrook sand was 11 feet thick and very nice looking sand, but no oil. This well will be drilled to below the Pencil Cave, if the Second Sunnybrook fails to show a commercial producer. Mr. Baird is down more than 200 feet at his No. 1 Morgan tract, same district.

In the Bear Creek district, Freeman & McCormick's No. 6 T. L. Bow tract, set 6¼-inch casing at 642 feet, and at last report was down 1,150 feet.

McClintock, Reed and others report No. 3 J. M. Hughes tract got 181 feet of 8-inch casing, found a cave at 553 feet, and down to 750 feet and drilling. This well is in the Pusley Creek district.

In the Williams Prong district, Dr. Lang's No. 1 John Finley is drilling close to a depth of 300 feet. The Kanawha Oil Co. is drilling about the same depth at No. 1 J. Rush tract. Wilcox Brothers' No. 3 J. A. Melton is down around 400 feet.

In the Kettle Creek district, Charles A. Gartland, trustee, is down around 400 feet at No. 6 Maude Blythe tract. A. S. McClintock, attorney-in-fact, cased at 213 feet, passed through both the First and Second Sunnybrook sands, which were dry, and is now drilling around 500 feet. This well is No. 1 on the Bedford Coffe tract. Same firm's No. 10 Millard Kerr put in 271 feet of 8-inch casing. Small show of oil in the Anderson sand at 393 feet, now drilling close to 500 feet.

Eastern Division

Outside of six completions in the eastern division, but little was doing, owing to bad conditions, but work will soon be rushed, especially in the North and South Weir Fields of Johnson, Lawrence and Magoffin Counties. The Swiss Oil Corp., purchasers of the properties of Union Gas & Oil Co., expects to get busy soon. The former owners at times were running more than 20 strings of tools on new wells and other strings kept busy cleaning out the producing wells.

North Weir Field

In the North Weir Field of Lawrence-Johnson Counties, the Swiss Oil Corp.'s No. 14 on the G. Kelley tract is credited with a flush of 14 bbls. from the Weir sand. There are 18 strings of tools reported working in the field.

South Weir Field

Two completions were reported from the South Weir Field of Johnson-Magoffin Counties. The Hamlon-Turner Co.'s No. 1 Milt Tackett tract is reported at 1 bbl. in the Weir sand.

The Fych Oil & Gas Co. has a nice gas well in No. 8 on the Licking River tract of the company.

Other Completions

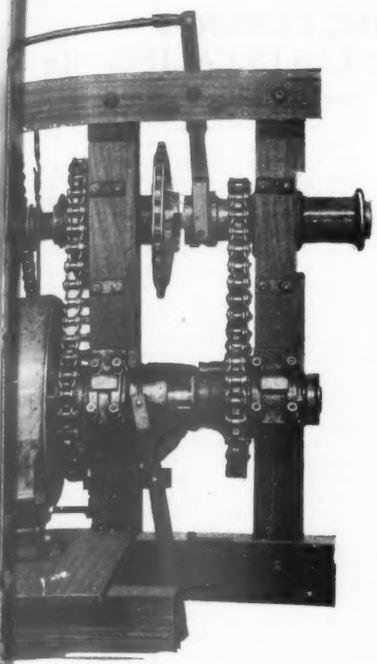
Howell and Marcum's No. 1 on the Charley Howell tract, in District 7, in the Irvine Field of Estill County, is credited with 3 bbls.

In the Sandy Hook district of Elliott County, District 24, the Edra Lee Oil & Gas Co.'s No. 4 on the John Dials tract, had a flush of 10 bbls.

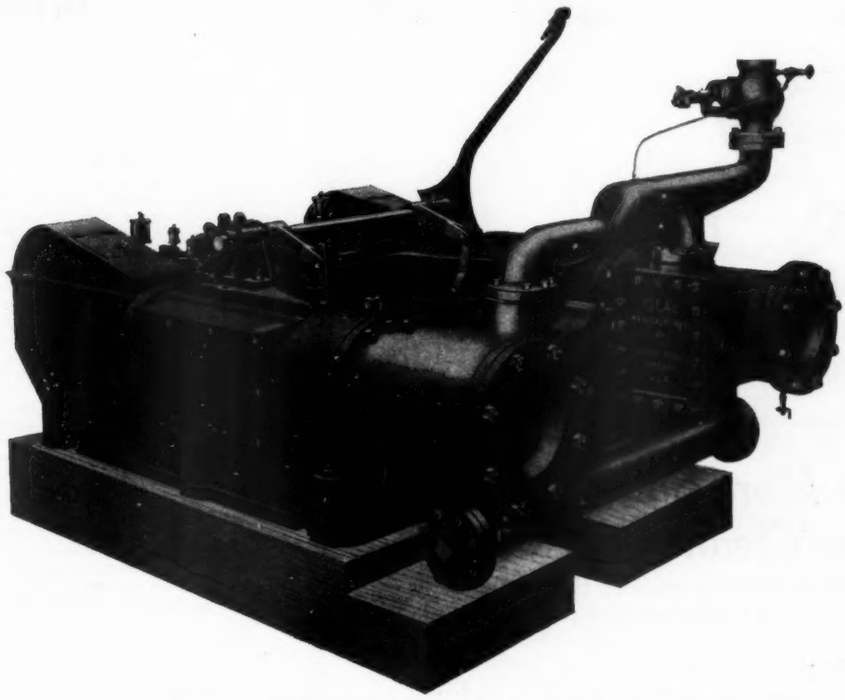
Wildcats

It is reported that the Standard Oil Co. of Kentucky has moved to a new location, some distance in advance of a recently completed well which made a nice showing from two sands, in Laurel County. Other companies have secured blocks of acreage in the same county with expectations of doing some test work.

A number of leasemen for some of the large companies have been in the Indian Creek area of Knox County, and tests are expected to be started early in the summer.



DRAW WORKS



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Lots of Froth In Campbell Oil-Froth Absorbers

There are 16 separate and distinct contacts of the gas with the oil and as many separations, each contact being obtained by means of over 4300 jets through a pool of oil. The action is so violent that the oil is whipped into a froth consisting of billions of small bubbles, so that every particle of gas is surrounded by a film of oil.

Campbell Oil-Froth Absorbers have reduced production costs in every absorption plant where they have been installed and have increased production from 20% to 80%. Ask for literature.

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USE OF QUICK SETTING CEMENTS IN OIL WELLS IN CALIFORNIA

By C. C. Thoms.*

The competitive drilling conditions in the deep "gusher" oil fields of California have caused to be developed, during recent years, new methods and improvements in drilling operations which have for their primary object speed in drilling and the starting of production at the earliest date possible. The first well to reach the producing zone in a given limited area receives the benefit of the maximum gas pressure and sand saturation and usually produces more oil than any of the nearby offset wells.

Among other time savers, the use of a chemical to accelerate the setting of cement has been generally adopted and has resulted in the saving of from six to ten days in the operation of shutting off water.

Under former methods of cementing, a water string was allowed to stand after the cementing operation for a period of ten days or two weeks, and sometimes even longer, before drilling out for test of shut off. Several of the larger oil companies and well cementing concerns, therefore, did considerable experimental work to develop, if possible, a cementing process which would shorten the time required for the setting or hardening of the cement placed around the water string.

The purpose of this paper is to outline briefly the chemistry of the setting and hardening of cement and the function performed by the quick setting or quick hardening reagent, and to describe the general practice in the use of the reagent and the results obtained.

Chemistry of Setting of Cements

There are some disagreements in opinions as to the exact chemistry of the setting and hardening of cement. It is generally agreed, however, that cement when mixed with water always sets. The finer the cement is ground, the quicker the setting. If agitated too long after mixing with water, it sets in small particles which do not join other particles and results by weight and if it could in practice be mixed with that amount of water it would attain the same strength in one or two days as cement mixed with 40 to 50 per cent water attains in 10 to 11 days.

Professor D. A. Abrams in charge of Structural Materials Research Laboratory—Lewis Institute, Chicago, states in a personal communication:

"The setting of cement is, of curse, a process of hydration. The exact mechanism of this hydration is not completely worked out. There are two extreme schools of thought. One holds that the process is entirely a solution and subsequent deposition of interlocking crystals of the silicates and aluminates of lime. The other school holds that the hardening process is a formation of colloidal gels. It is probable that both conditions exist but the colloidal state predominates. The Portland Cement Association is at present conducting a comprehensive study of this subject in cooperation with the U. S. Bureau of Standards, but the studies have so far not been carried far enough to draw any conclusions."

F. W. Huber, consulting chemical engineer, makes the following statements regarding the nature of Portland cement and the chemistry of its setting, drawing a sharp distinction between a quick setting and a quick hardening cement:

"Setting and hardening are two very distinct chemical processes. A quick setting cement, as a general rule, is not a quick hardener. To make clear this distinction, a closer glance at the chemistry involved will perhaps be illuminating. Portland cement clinker is essentially a solid solution of various calcium aluminates in a tri-calcium silicate, much in the same way as steel is a solid solution of iron carbide in iron. Before grinding. Portland cement clinker possesses no hydraulic properties—it can be stored under water for an indefinite period without 'setting up.' Upon grinding to more or less of a powder it develops hydraulic properties, but the product is very quick setting, and develops only a part of its strength possibilities. In order to regulate the set, up to 5 per cent of gypsum (calcium sulphate) is added. This not only controls the setting time, but develops the normal strength. This action of gypsum upon the ground cement was not understood until quite recently. A normal cement can very easily be made quick setting by merely neutralizing the gypsum, but in doing this, the development of the strength is seriously interfered with.

First Reaction

"When a normal Portland cement is gauged with water to a putty-like mass, the first reaction taking place is the hydration of the tri-calcium aluminate which separates as a colloidal mass. It is the coagulation of this hydrate which produces the first stiffening of the putty—this is the initial set, and is in fact, merely the absorption contained in the water and its partial fixation. At the same time there is formed a complex compound between the hydrated alumina and the calcium sulphate. This compound possesses the remarkable property of bringing about the hydration of the chief constituent of the cement, i. e., the tri-calcium silicate. It is the hydration of this tri-calcium silicate, that Portland cement mortars owe their strength. This hydration is a compartively slow process extending over a number of weeks. It does not begin until after about 24 hours. These reactions can all be followed under the polarizing microscope. The microscope further reveals that after hydration is complete, the calcium sulphate reverts to its original state, and from then on is but an inert constituent of the hardened cement. Such a substance which brings about a reaction, but does not enter as a combination into the end product, is termed a catalyst."

Experience has demonstrated that water is one of the most important constituents of concrete, that concrete mixed too wet is subject to early decay, and that usually the greater the excess of water used in the mix the less the final strength of the concrete or neat cement grout. It therefore logically follows that if the hardening of cement is to be hastened, it is necessary to secure as a satisfactory catalyst one which will speed up the hydration, but will not affect injuriously the ultimate strength of the cement, greatly change its volume while setting, or have a corrosive effect on the casing with which it comes in contact. In order to obtain these results the catalyst must also act as a coagulator, thereby thickening up the cement grout so that it will set and harden normally, even with a considerable excess of water.

A publication of the United States Bureau of Standards, Technical News Bulletin No. 75, contains the following statement regarding the corrosive effect of calcium chloride in structural steel rods embedded in mortar containing this reagent for periods of from five to six years:

"While calcium chloride tends to corrode the reinforcement, the corrosion does not seem serious or of a progressive nature with age, in cases where the reinforcement is completely embedded in the concrete. However, when using accelerators care should be taken to completely coat and embed the reinforcement and avoid pockets near it."

Other experiments have been carried on by the manufacturers and users of quick hardening reagents which they claim demonstrate that the reagents in general use satisfactorily fulfill the other above mentioned essentials, if used in the proper proportions.

Quick Setting Cement and Chemicals Used

As already indicated, chemists and cement manufacturers have been aware that the addition of certain chemicals to cement would retard or accelerate its initial set and also hasten or slow down its

*Deputy Supervisor, District No. 2, California State Mining Bureau.

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A bit in the hole? A cave-in threatened? That is when you'll need Murray Tool & Supply service.

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We can supply any kind of tools you may need—just when you need them. And that means a lot in the Oil Business—Ask any driller or contractor. Our branch stores are all over the Mid-Continent territory. Write us for special tools and special service.

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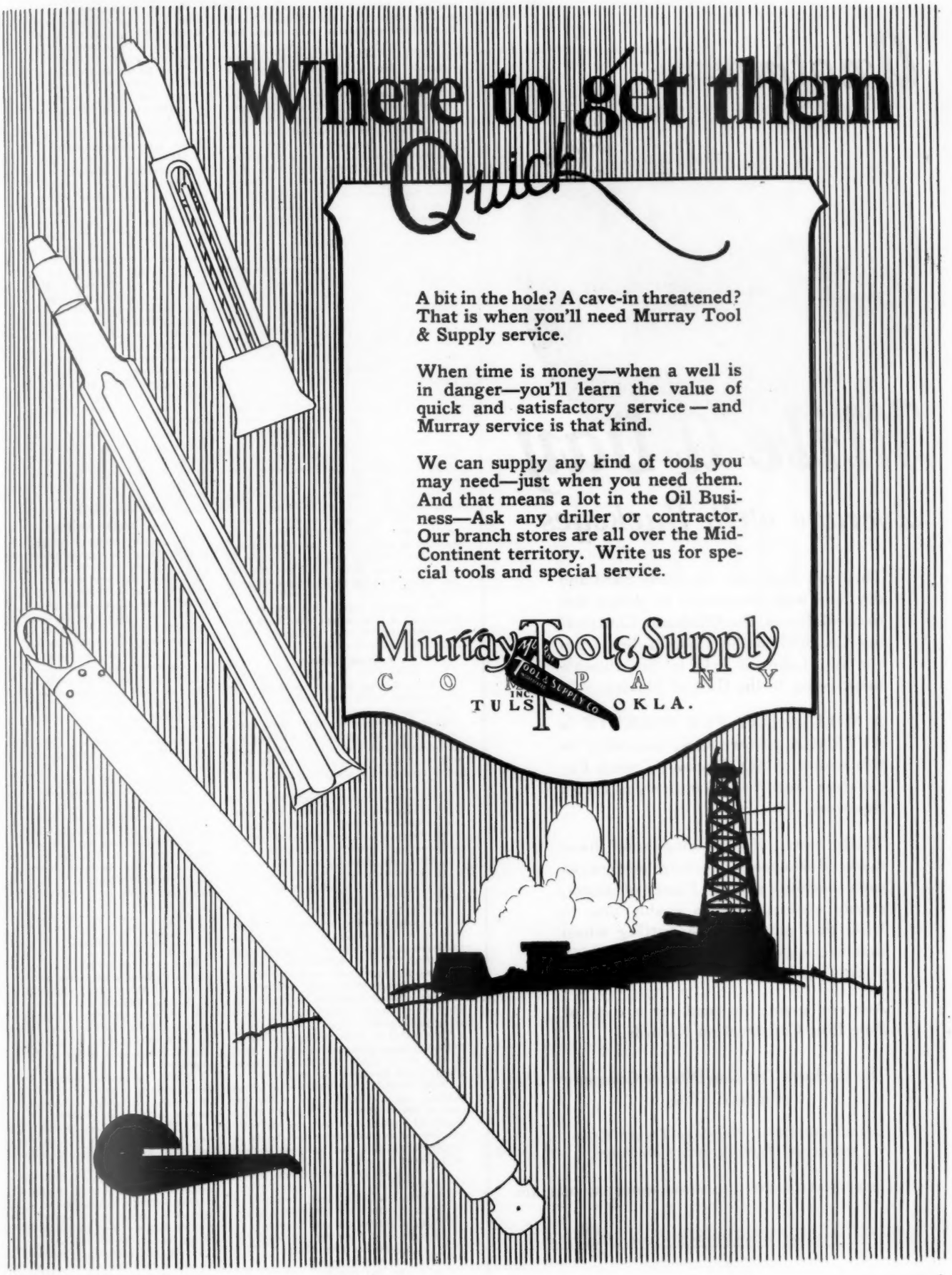

Another

Mile a Day

Average with Buckeyes

Thru soil that was extremely hard and dry, and with practically no delays due to breakdowns, the Oklahoma Contracting Co. ditched the 196-mile line from the Big Lake oil field to the Humble lines, going to the Gulf of Mexico.

A MILE A DAY PER BUCKEYE is AVERAGE performance, according to this owner of SIX Buckeye Trench Excavators and two Buckeye Pipe Screwers.

Thirty years of "knowing how" have made Buckeyes as nearly perfect as such machines can be. Plenty of power, sturdy construction to enable you to USE that power and a cutting wheel that keeps going thru the hardest kind of digging.

Ask any owner or send for a copy of Pipe Line Construction Records.

The Buckeye Traction Ditcher Company
Findlay, Ohio

Manufacturers of Pipe-Line Trench Excavators and Pipe Screwing Machines

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hardening and increase or decrease its ultimate strength. However, so far as the writer knows, there is only one cement concern—the Atlas Lumnite Cement Co.—which specializes on a quick hardening cement. This company outlines the introduction of this cement into the industrial field and gives its chief characteristics as follows:

"Atlas Lumnite cement is an alumina cement, similar to the French products, which were used in the construction of gun implacements during the World War. Since that time alumina cements in France have come into a very general use for practically all purposes where Portland cement is ordinarily used. The demand for these cements in Europe has grown so rapidly that it cannot be met by the mills manufacturing them.

"Lumnite cement is not quick setting. It affords the usual ample time for mixing, transporting and pouring before stiffening, but after setting, its high early strength develops with great rapidity.

"The chief characteristic of Lumnite cement that would interest oil producers is its very high early strength. It develops a greater strength at 24 hours than that of Portland cement at 28 days. Some time ago we made for the Halliburton Oil Cementing Co. some tests of Lumnite cement in comparison with Portland cement, using 40 pounds of water to a bag of cement. These tests indicated the strength of Lumnite cement at 12 hours to be 35 per cent greater than that of Portland cement at 10 days. This early strength permits of the resumption of drilling operations within one day after cementing the casing.

"Besides the advantages of the high early strength of Lumnite cement, it is considerably more plastic, or flows more readily than does Portland cement, on account of very much finer grinding and a greater colloidal content. This facilitates the filling of all voids surrounding the casing and the impregnation of sand and gravel."

The company states that considerable quantities of this cement have been used for cementing oil well casings in Oklahoma and in foreign fields.

Calcium Chloride

The Santa Cruz Portland Cement Co. has the following to say about the use of chemicals in oil well cement:

"During the past three years a large number of experiments have been made covering a large variety of accelerators, including calcium chloride, which were believed might find application with slurrified cements for shutting off water in oil wells.

"With the exception of calcium all of the accelerators experimented with have had deleterious effects in some form or other which would bar all recommendations for use. Calcium chloride, however, has responded favorably in practically every instance surrounding the conditions arising in oil wells, when used judiciously.

"Among the conditions considered in the calcium chloride experiments, those relating to rate of acceleration, degree of acceleration, time required for mixing and depositing, rate of hardening, quantity required for maximum results, effectiveness in mixing, effect upon well waters and pipe, batch locations for maximum effect at minimum resistance, have been given preference.

"The result in judicious application of $CaCl_2$ has been favorably effective in each of the above particulars and therefore adapts itself favorably for use.

"Best results are obtained by using calcium chloride equal to 3 to 3¼ per cent of the weight of the cement. When compared with our oil well cement without the use of accelerator the degree of hardening for the same periods showed an increase as follows:

In a 40 Per Cent Slurry

24 hours—97.5 per cent increase
3 days —45.8 per cent increase
7 days —16.3 per cent increase
14 days —10.0 per cent increase
28 days — 3.7 per cent increase

In a 50 Per Cent Slurry

143.5 per cent increase
37.0 per cent increase
32.2 per cent increase
0.9 per cent decrease
21.4 per cent decrease

"In the presence of an excess of water equal to 50 per cent, the increase in the degree of hardening is confined to the 24-hour, 3 and 7-day periods, and thereafter there is a loss of strength.

"In a 40 per cent slurry, however, the rate of increase is constant to and including the 28-day period, but the rate of acceleration in 24 hours is not so rapid.

"It has been found that a 40 per cent slurry containing calcium chloride equal to 3¼ per cent of the weight of the cement afforded a strength, compressive or tensile in 24 hours, very nearly equal to what the same cement without $CaCl_2$ afforded in three days. That of the three-day period with $CaCl_2$ was almost as strong as that of the seven-day period without $CaCl_2$; and that of the seven-day period with $CaCl_2$ was almost as strong as that of the 28-day period without $CaCl_2$. In the case of a 50 per cent slurry containing $CaCl_2$ equal to 3¼ per cent of the weight of the cement, the strength in the 24-hour period was a little over half as strong as that of the seven-day period without $CaCl_2$. That of the three-day period with $CaCl_2$ was equal in strength to that of the seven-day period without $CaCl_2$ and that of the seven-day period with $CaCl_2$ was considerably lower than that of the 28-day period with $CaCl_2$.

"It may be definitely noted that the degree of strength is entirely dependent upon the strength of cement originally used; following that a cement of rapid early hardening and of high strength will similarly be stronger for the periods named when used with the accelerator."

Adding Reagents

The other cement companies have usually been content to manufacture a very high and uniform grade of cement for oil well purposes, leaving the user to add any reagent which he believed would increase the effectiveness of the cement.

The quick hardening of these cements is obtained by the addition of certain accelerators. The usual action of such accelerators is to hasten the stiffening process known as "set," and also to increase the strength at early ages. The effect of these accelerators is thus generally carried beyond the setting point. The following is a partial list of those now on the market:

Chlorides of Calcium, Barium, Strontium or Aluminum, and the Carbonate and Bicarbonate of Sodium. These mainly compose the chemicals known as Huber & Wilson's Reagent, Quick Hardening Chemical (largely Calcium Chloride and commonly known as the McDuffie reagent), the Mojave Reagent, a liquid made from materials obtained in the Mojave Desert by P. A. Wheeler of Whittier, Calif., and the material known by the trade name of "Konset." The chemical analysis of this last compound is given by its manufacturer as:

Lime and soluble material	78.10%
Fatty acids	5.65%
Ammonia	2.58%
Magnesium flo-silicate	10.07%
Loss on ignition	3.00%

Five of these reagents are in general use in California oil fields and the percentage of the reagent added to cement is about as follows:

1. Calcium Chloride, a salt, purchased in bulk and dissolved in water before mixing with the cement. The usual proportion is 100 pounds to 20 or 25 sacks of cement.

2. "Cal," a powder sold in 100-pound sacks, usually mixed dry with cement before water is added. Proportion, 100 pounds to 20 sacks cement.

3. Huber & Wilson Reagent, a liquid sold in five-gallon cans, one five-gallon can being added to each 40 sacks of cement.

4. "Konset," a liquid sold in five-gallon containers. The Konset is added to the mixing water in proportions of one gallon Konset to 10 gallons of water. The proportion is about one gallon of Konset to about four sacks of cement.

5. Quick Hardening Chemical, in the form of a rock salt put up in three-pound sacks. One sack of the reagent for each

(Continued on Page 103)

8,000 barrels *per hour* with each pump!

At Wilmington, California, tankers are being loaded faster than at any other port in the world. Byron Jackson centrifugal marine loading pumps electric drive, are a big factor in contributing to this result.

The standard Byron Jackson centrifugal marine loading pump handles 8,000 barrels per hour. A battery of three of these units loads a 100,000-barrel tanker in four hours.

Centrifugals are rapidly replacing reciprocating pumps for the handling of oils, because of their low first cost, small foundation space, and freedom from repairs.

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Your Money's Worth

Manila Cable, the world over, has the advantage over other kinds of Cable, in that it possesses that exclusive feature of elasticity.

However, there are different kinds and brands of Manila Cable. That is why it pays to call for a particular brand, like Columbian, which is a leader among Cables.

At the very beginning of its manufacture, Columbian fibre men in the Philippine Islands, select a certain long, tough fibre which has proven to be the very best fibre for Cable making.

The result is a uniform product and it is often remarked that one Columbian Cable is just like the next—all equally excellent. That is why Columbian has the enviable reputation of drilling more hole than others. The driller who hooks his tools to Columbian, is sure to get his money's worth.

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Auburn, "The Cordage City," N. Y.

Branches:— New York Chicago Boston New Orleans

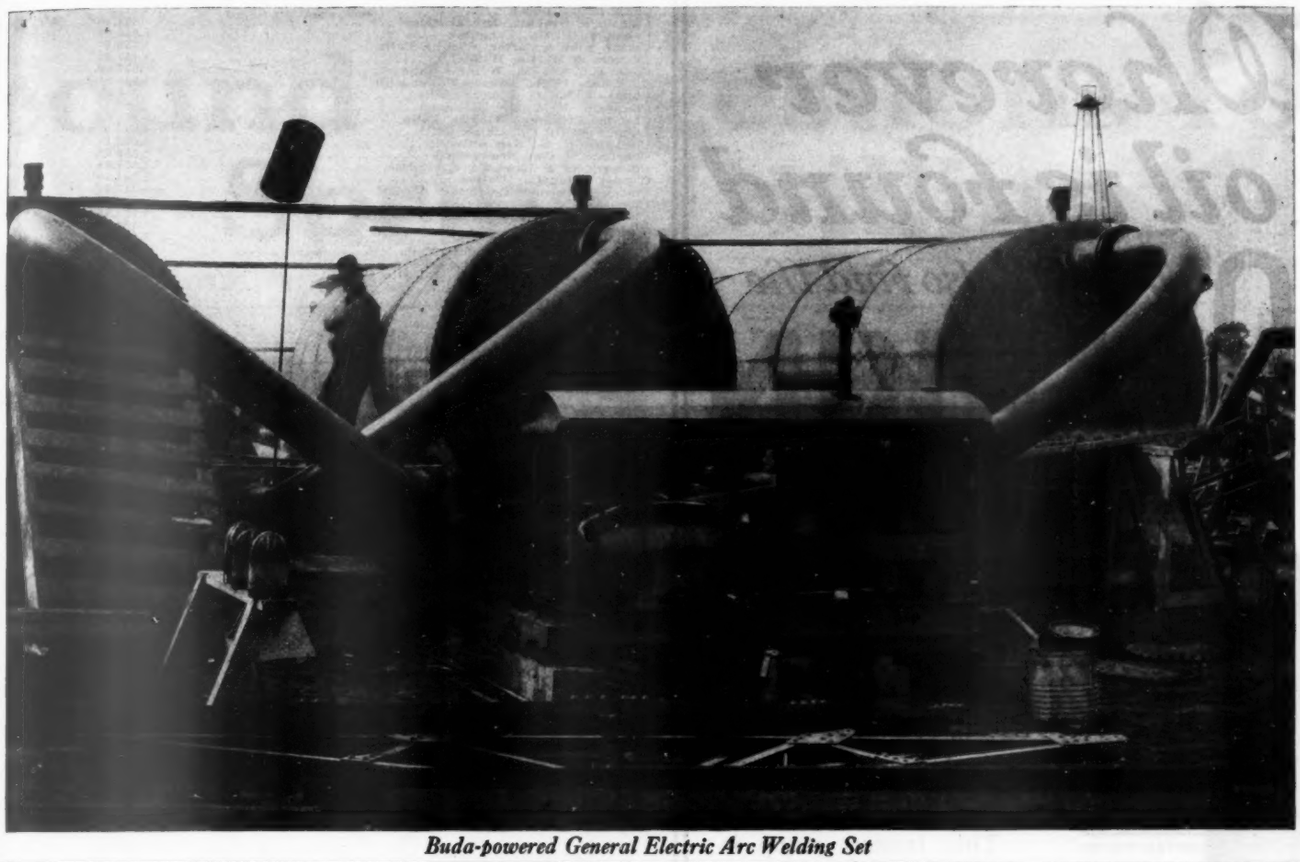
"Drill With Manila"

TEXAS GROSS PRODUCTION LESS DURING FOURTH QUARTER OF 1925

A decline of 2,616,401.36 bbls. in the gross production of Texas during the fourth quarter of 1925 as compared to the third quarter is shown in the report compiled by the State Auditor's office for taxation purposes. That report gives the production as reported by the various companies and individuals at 31,448,608.07 bbls. with a valuation of $55,596,114.27, as compared to a production of 34,065,009.43 for the third quarter. The report follows:

OIL COMPANIES REPORTING GROSS RECEIPTS TAX ON OIL PRODUCTION FOR THE QUARTER ENDING DECEMBER 31, 1925

Name and address—	Barrels	Gross Value
Aaronson, M. L., Tulsa, Okla.	267.18	579.85
A. B. C. Oil Co., Electra	136.26	3,857.43
Abercrombie, J. S., Houston	34,618.30	51,927.45
Acorn Oil Co., Beaumont	6,840.57	10,260.85
Ada Belle Oil Co., Batson	17,554.65	26,331.98
Adams Brown & Lickey, Wichita Falls	3,147.66	6,481.11
Adley, E. A., Houston	180.00	225.00
Agate, A. L., trustee, Eastland	381.00	718.00
Ailes, J. W., Wichita Falls	1,330.74	2,674.78
All American Oil & Gas Co., Oklahoma City, Okla.	70.96	135.38
Alonzo, Jr., Oil Producers, Laredo	4,776.71	4,839.26
Albany Oil Co., Breckenridge	2,475.46	4,578.65
American Texas Oil Co., Somerset	427.53	560.05
Amicable Life Insurance Co., Waco	488.00	732.00
American Refining Co., Wichita Falls	129,080.00	177,718.44
Amster, N. L., Ardmore, Okla.	5,066.26	7,180.12
Amarillo Oil Co., Amarillo	1,945.61	2,432.01
Andrews Petroleum Corp., New York City, N. Y.	5,875.00	6,499.57
Andrews, W. R., et al, Breckenridge	13,339.12	22,789.01
Appleman & Gutman, Tulsa, Okla.	1,749.49	3,506.70
Apple Brandeberry Oil Co., Wichita Falls	29,020.80	66,844.56
Appleman, H., Tulsa, Okla.	11.26	19.92
Arkansas Natural Gas Co., Pittsburgh, Pa.	146.25	286.09
Arkansas Fuel Oil Co., Pittsburgh, Pa.	5,291.94	9,462.56
Arkmo Oil Co., Somerset	2,232.87	2,901.58
Arnold & Frazier, Putnam	366.02	788.61
Arlington Oil & Gas Co., Arlington	176.39	184.03
Artex Oil Co., Wichita Falls	6,268.74	12,824.71
Associated Petroleum Co., Fort Worth	12,981.81	20,126.41
Associated Petroleum Co., Fort Worth	7,548.22	13,114.78
Ascot Co., Wichita Falls	16,510.92	33,468.56
Associated Oil Co., San Francisco, Calif.	74,866.05	97,886.00
Ashe Syndicate, Fort Worth	1,479.72	2,873.82
Atlantic Oil Production Co., Dallas	246,619.48	457,512.73
Atlantic Oil Royalty Corp., New York, N. Y.	1,207.41	1,412.67
Aztec Petroleum Co., San Antonio	402.69	407.39
Barkley & Crotty, Ranger	12,598.06	25,321.93
Barkley, Crotty, Six & Little, Ranger	8,692.08	17,585.03
Bush & Clark, Waco	481.00	972.45
Big Indian Oil & Development Co., Gainesville	972.27	1,944.54
Brinkley Producing & Refining Co., Pittsburgh, Pa.	818.56	1,361.54
Baker Oil Co., Inc., Houston	4,948.40	7,422.60
Baldwin, F. C., et al, Fort Worth	7,916.19	17,538.00
Barkley & Meadows, Corsicana	86,416.34	175,772.71
Bartlett, William, & Co., Electra	705.78	1,554.93
Basham, C. E., Wichita Falls	34.08	89.76
Bay Oil & Gas Co., Mirando City	2,862.93	3,014.35
Bashara & Bashara, Waco	160.00	240.00
Bashara, M. J., Wichita Falls	7,616.44	12,287.58
Bashara, J. F., Houston	37,081.23	55,405.95
Bartlett Production Co., Thorndale	6,117.89	12,664.03
Bass & Dillard, Wichita Falls	3,451.42	7,144.43
Baker, Mollie B and J. A., Breckenridge	6,254.00	11,568.90
Barkley & Meadows, Wichita Falls	178,232.99	367,592.95
Beggs Oil & Gas Co., McKinney	2,092.00	4,505.71
Benkendorfer, J. P., San Antonio	571.36	1,132.17
Bennett, Mills, Houston	25,673.63	34,700.77
Bell Burke Oil Co., Waco	546.55	1,039.74
Bexata Oil Co., San Antonio	2,597.38	3,991.70
Bernstein, Eli D., Oklahoma City, Okla.	307.24	553.03
Bearden, Annie, Wichita Falls	6,887.49	13,965.83
Belcher, R. T., Wichita Falls	204.20	399.09
Big Lake Oil Co., Pittsburgh, Pa.	1,723,221.17	3,321,054.18
Big State Oil Corp., Dallas	2,463.27	2,463.27
Big Four Consolidated Oil Co., El Paso	535.92	936.19
Big Bend Oil & Gas Co., Laredo	9,907.24	11,375.14
Biel, William, Von Ormy	40.00	65.24
Black Cat Oil Co., Electra	2,232.94	4,354.24
Bleakley & Kinnison, Wichita Falls	1,202.92	2,168.77
Bliss & Weatherby, Shreveport, La.	6,418.01	13,986.99
Bluebonnett Petroleum Corp., San Antonio	1,841.83	2,725.56
Bluebonnett Oil Co., Wichita Falls	870.39	1,785.10
Bluebird Oil Co. (L. G. Marshall), Houston	13,676.16	26,786.58
Blair & Kell, Dallas	11,467.56	23,910.38
Bleakley & Carr, Houston	2,953.09	4,429.63
Bobo, W. T., trustee, Battle Creek, Mich.	72.76	106.96
Bonchel & Co., Wichita Falls	16,967.21	34,561.67
Borealis Oil Co., Oklahoma City, Okla.	6,955.64	13,980.83
Boller, C. W., Wichita Falls	2,110.49	4,428.30
Boyd, E. W., Cisco	1,793.56	3,814.24
Bowman Oil Co., Rockdale	3,818.74	7,798.37
Bolding, W. P., Wichita Falls	721.14	1,450.57
Bonner, J. H. S., et al, Wichita Falls	4,819.96	10,738.99
Brown, Mrs. Carrie L., et al, Orange	20,930.26	31,395.88
Bright, Samuel, Wichita Falls	1,604.37	3,359.25
Brothers Oil Co., Inc., Tulsa, Okla.	16,345.37	37,165.55
Brown, Dr. E. W., estate, Orange	7,847.89	11,771.83
Brownwood Producing & Refining Co., Brownwood	3,295.39	6,444.72
Brinkley Producing & Refining Co., Pittsburgh, Pa.	2,428.60	4,710.03
Brown & Co., Inc., Cisco	6,210.60	13,605.49
Bruce, H. J., Wichita Falls	1,947.84	3,993.03
Brown, George L. estate, Red Bank, N. J.	1,752.51	2,716.41
Bridwell & Heydrick, trustees, Wichita Falls	8,386.58	17,484.88
Brady Brothers, Ardmore, Okla.	209.30	445.81
Breckenridge Gasoline Co., Toledo, Ohio	269.08	477.98
Broughton, S. J., Brownwood	100.00	100.00
Bradley, E. L., Mofan	119.60	241.80
Braden Co., The, Eastland	4,715.54	9,136.48
Brady, J. F., Ardmore, Okla.	642.84	1,296.31
British American Oil Prod. Co., Tulsa, Okla.	26,068.00	54,155.82
Brock & Showers, Corsicana	16,917.01	36,833.52
Brady, T. A., Ardmore, Okla.	188.10	438.15
Brannon & Murray, Eastland	26,370.15	57,658.66
Bridwell & Heydrick, Wichita Falls	101,391.19	213,452.76
Bridwell & Mayfield, Wichita Falls	20,125.99	43,473.92
Brothers, Gallegher & Lawson, Desdemona	14,281.18	29,666.18
Bullington, Lee, Pendleton & Hamon, Wichita Falls	5,699.97	12,128.88
Bullington, Lee & Pendleton, Wichita Falls	18,965.89	39,109.22
Buckeye Pipe & Supply Co., Breckenridge	1,017.10	1,850.94
Buckeye Development Co., Columbus, Ohio	365.93	668.12
Burr, J. K., San Antonio	389.19	682.61
Burk Burnett, Jr., Oil Co., Fort Worth	591.26	978.55
Buchanan, S. R., Batson	12,490.13	18,735.20
Burk Venus Oil Co., Dallas	102.94	189.25
Burley Oil Co., Humble	4,144.00	6,713.28
Burns & Moxson, Wichita Falls	17,495.04	36,329.64
Burton McKee Oil Co., Strawn	858.92	1,676.30
Burleson & Chenault, Wichita Falls	618.24	1,134.29
Bush & Cluck, Waco	608.00	881.60
Bynum, W. W., Minerva	1,911.11	3,910.02
Christie & Stoops, Ranger	458.00	817.41
Cassoday Oil Corp., Fort Worth	477.41	889.89
Clark N. F., Wichita Falls	233.47	361.88
Colony Oil Co., Wichita Falls	3,854.95	7,495.21
Crosbie, T. S., San Antonio	2,589.06	4,013.20
California Co., Colorado	192,070.00	236,246.10
Canyon Oil & Gas Co., Cross Plains	7,282.30	11,280.34
Carteret Oil Corp., Jersey City, N. J.	2,056.00	4,094.00
Caltex Oil Co., Spokane, Wash.	789.00	1,096.71
Camp Oil & Gas Co., Wichita Falls	17,002.98	36,014.78
Carter, Roy I., Wichita Falls	3,179.46	6,649.65
Caruthers Co., San Antonio	2,793.25	4,026.34



Buda-powered General Electric Arc Welding Set

Cutting Costs

This Buda-equipped arc welding set, owned by the Skelly Oil Company, is being used for welding pipe at their new plant in Davenport, Oklahoma.

Welding by electricity is cheaper than by any other process. This saving combined with the saving on maintenance expense on a Buda power plant makes the cost per joint considerably lower than can be made by other methods.

Write our Oil Field Department for information about Buda-equipped arc welding sets and other oil field equipment.

THE BUDA COMPANY, HARVEY CHICAGO SUBURB ILLINOIS
ESTABLISHED 1881

Manufacturers of Engines Operating on Gas, Kerosene or Natural Gas

BUDA
The
ENGINE

Wherever oil is found

You will also find the

LARKIN

PATENTED

IMPROVED SAND PUMP

giving dependable service

Its popularity has spread rapidly since it was first introduced in Eastern fields. The one reason for its present wide distribution in service is *good results.*

This famous pump is designed to meet all conditions, and does, with an unusual degree of satisfaction. In every way it is representative of *The Larkin Line* and reflects the way in which all our Drilling and Fishing Tools have fulfilled the needs of the Industry.

Today *The Larkin Line* is more complete than ever, but it still has its basis in the one characteristic we have always held fundamental—*thorough reliability in the performance of the duty for which intended.*

If this is what you want, get *Larkin Products* from any of the leading supply stores.

Our new catalogue No. 30 describes The Larkin Line. May we send you a copy?

LARKIN & CO.

BUTLER, PA., U. S. A.

Name and address—	Barrels	Gross Value
Caldwell Guadalupe Pick Up Station, Luling	2,621.89	2,808.54
Capitol Oil Co., Orange	4,600.31	6,900.46
Cady, C. C., Moran	3,519.06	6,572.38
Caprito & Graham, Breckenridge	808.49	1,456.28
Canadian Oil Co., Canadian	1,650.00	1,650.00
Carter, Fine & Carter, Wichita Falls	3,152.27	4,976.78
Cezeaux & Martin, Humble	14,157.00	21,235.09
C. G. & C. Oil Co., Wichita Falls	597.00	1,068.52
Chapman, P. A., estate, Waxahachie	38,563.26	71,962.40
Chenault, N. B., Wichita Falls	388.05	769.31
Chapman, P. A., Jr., Eastland	1,086.42	1,955.06
Christie Brothers, Wichita Falls	15,971.99	31,841.97
Chico Pool Oil Co., Chico, Calif.	1,049.43	1,108.86
Chandler, C. G., San Antonio	3,009.27	4,084.59
Charter Oil Co., Brownwood	2,336.00	2,570.18
Chicago Oil & Land Co., Rockdale	1,427.68	2,898.19
Cisco Drilling Co., Dallas	3,244.10	4,196.28
Cintex Petroleum Syndicate, Laredo	4,317.00	4,964.55
Clem Oil Co., Houston	536.94	896.41
Clark, R. R., Wichita Falls	3,527.12	7,252.34
Clara Oil Co., Wichita Falls	888.13	1,904.91
Cline Oil Co., Wichita Falls	3,690.99	7,640.35
Cline, W. D., et al, Wichita Falls	632.80	1,289.20
Clough, Charles E., Wichita Falls	2,573.97	4,791.19
Clark, Harbin & Baldridge, Wichita Falls	7,783.82	15,543.02
Clay, J. D., Houston	2,594.83	3,522.31
Clear Lake Oil Co., Rockdale	5,562.08	11,449.94
Coons & Hotchkiss, Graham	3,212.00	6,217.94
Continental Supply Co., St. Louis, Mo.	1,044.56	1,976.63
Consolidated Oil Co. of Texas, Wichita Falls	4,392.64	9,483.59
Conway Brothers & Gillman, Cross Plains	29,284.41	68,160.03
Cornhuskers Oil Co., Lincoln, Neb.	7,568.57	8,067.21
Conner Sons & Cloughley, Gotebo, Okla.	9,201.38	18,874.31
Cochard & Williams, Moran	318.93	576.52
Corona Petroleum Co., Jersey City, N. J.	1,600.81	2,925.98
Cosa Oil Co., Cisco	1,052.16	2,392.13
Cohen, Aaron, Wichita Falls	11,849.32	24,671.35
Continental Oil Co., Denver, Colo.	163,669.78	260,572.46
Conley, Daleney & Dyer Brothers, Ranger	1,293.71	2,626.29
Coyle Concord Oil Co., San Antonio	2,824.24	5,385.12
Commercial Petroleum Co., Brownwood	324.37	356.80
Commercial Petroleum Co., Wichita Falls	1,035.96	2,108.02
Cowling & Newell Oil Co., Wichita Falls	712.52	1,426.95
Cox Mitchell & Boyd, Wichita Falls	230.38	493.01
Cox, Edwin B., Ardmore, Okla.	4,011.40	7,664.18
Conner Hyer Production Co., Fort Worth	317.50	635.00
Corlett, W. B., Wichita Falls	3,290.05	6,791.40
Conway Brothers et al, Cross Plains	549.22	1,232.68
Conway Brothers, Cross Plains	4,613.45	11,083.54
Coppeck & Coleman, Iowa Park	2,034.61	4,130.87
Cotton, J. H., & Co., Iowa Park	3,403.61	6,870.63
Cosden, J. S. Inc., Fort Worth	18,515.26	41,103.20
Crown Central Petroleum Corp., Houston	72,890.72	95,938.10
Crown Oil & Refining Co., Houston	22,889.55	34,334.33
Cranfill Brothers Oil Co., Wichita Falls	2,037.37	3,961.09
Cranfill & Reynolds, Inc., Cisco	87,718.81	169,114.93
Crystal Oil Corp. of Texas, Denver, Colo.	3,720.74	6,960.19
Cram & Clark, Wichita Falls	4,088.38	8,568.89
Cranfill Brothers Oil Co., Dallas	5,160.29	9,618.46
C. W. M. T. Oil Co., Wichita Falls	3,459.00	7,511.02
Culbertson Co., Wichita Falls	15,200.36	32,592.75
Duncan, J. W., Wichita Falls	13,372.43	28,215.82
Duequesne Oil Corp., Eastland	2,952.52	6,803.37
Derby Oil Co., The Dallas	2,876.50	5,051.67
Dayton Oil Co., Dayton	1,725.64	2,597.47
Daniel, S. B., Wichita Falls	1,775.96	2,749.44
Dale Knotts Oil Co., Wichita Falls	300.34	644.46
Dale, E. A., special, Electra	148.52	274.79
Dale, E. A., Oil Co., Electra	3,089.01	6,794.01
Dale Oil Corp., Wichita Falls	57,067.57	132,354.16
Dale & Crawford, Electra	563.07	1,198.14
Davis, L. R., Tulsa, Okla.	187.39	281.10
Davis, Carolina A., Somerset	705.09	981.67
Dallas Bradford Oil Co., Dallas	424.38	798.46
Dalton, Jack, Oil Co., Mineral Wells	1,058.46	2,225.95
Daniels & Rutis, Wichita Falls	3,639.90	7,389.00
Davis, Hart, Oil Co., Wichita Falls	14,691.40	30,403.10
Darby Petroleum Corp. of N. Y., Tulsa, Okla.	187.83	321.18
Den-Wich Oil Co., Abilene	953.90	1,947.51
Deep Sands Oil & Gas Co., Corsicana	368.00	368.00
Deutser B., trustee, Beaumont	1,727.11	2,605.61
Dennis, J. S., Moran	2,291.91	4,194.20
Dibble Oil Co., San Antonio	1,836.33	1,971.74
Dickey Oil Co., Putnam	1,010.15	1,961.10
Dillon & Glasscock, San Antonio	620.31	813.79
Dixon Creek Oil Co., Amarillo	9,112.11	13,209.25
Donnelly, G. J., trustee, Fort Worth	416.92	932.81
Domestic Oil Co., Cisco	2,364.77	5,251.61
Dominion Oil Co., Tulsa, Okla.	1,594.57	2,281.38
Dozier, B. D., et al, Cross Plains	4,074.49	8,972.21
Douglas Oil Co., Tulsa, Okla.	9,594.67	11,993.34
Drillers Development Co., Electra	4,068.12	8,480.97
Driskill T. Lorain, Moran	4,180.00	7,565.80
Dursten, H. H., trustee, Houston	986.92	1,756.68
Eastland Oil Co., Fort Worth	37,323.20	63,290.42
Easton, E. S., Wichita Falls	3,175.75	6,497.71
Eby, Webb T., Eastland	939.73	1,871.36
Elbert, Follour & Herbert, Beaumont	1,897.02	2,845.53
Edgerly Petroleum Co., Orange	39,088.42	58,632.61
Eddy Oil Co., Beaumont	1,370.05	2,067.54
Eggers, J. E., San Antonio	1,383.31	1,977.26
Electra Gulf Oil Co., Electra	4,866.49	10,270.96
Ellis & Anderson, San Antonio	176.96	253.14
El Paso Eurkburnett Oil Co., El Paso	89.40	168.66
Electra Callahan Oil Co., Electra	9,357.71	19,771.46
Electra Production Co., Inc., Electra	4,506.12	9,399.98
Ellwood Co., The, Milwaukee, Wis.	4,757.59	7,136.39
Ellison Oil Co., Thorndale	40.06	81.29
Empire Gas & Fuel Co. (Me.), Bartlesville, Okla.	123,036.39	254,572.52
Erie Investment, Ltd., of Texas, Toronto Can.	1,187.49	2,234.47
Erickson, David, Wichita Falls	277.22	576.38
Ernest Oil Co., Rockdale	5,775.14	11,963.00
Eureka Producing Co., Wichita Falls	27,589.92	55,441.12
Eureka Drilling Co., Wichita Falls	321.34	668.36
Evans Oil Co., San Antonio	3,652.57	3,906.40
Evangeline Petroleum Co., Wichita Falls	3,450.20	7,072.91
Exley & Covert, Iowa Park	880.20	1,725.19
Ferguson & Watson, Electra	2,836.46	5,939.85
F. H. E. Oil Co., Sherman	19,250.00	33,922.90
Four States Oil Co., Abilene	1,232.01	2,630.47
Fensland Oil Co. of Texas, Denver, Colo.	9,326.67	17,892.29
Farish & Ireland lease, Houston	5,256.55	6,570.69
Ferguson Hawkins & Hester, Wichita Falls	4,700.08	10,464.99
Ferguson, W. R., Wichita Falls	831.37	1,768.41
Fisher & Gilliland, Wichita Falls	12,942.53	28,289.71
Five Rivers Oil & Gas Co., Wichita Falls	1,204.28	2,531.85
Fisher, Henry J., New Port, N. Y.	647.22	2,857.79
Flynn, W. B., Beaumont	7,585.50	11,430.06
Florence Oil Co., Oklahoma City, Okla.	10,004.69	22,050.34
Fogle Oil Co., Minerva	2,532.50	4,743.04
Fort Ring Oil & Gas Co., Fort Worth	967.56	2,046.69
Fox Perry L., Ranger	255.84	501.08
Fountain Production Co., Saratoga	7,058.16	10,587.14
Fresno Oil Co., Wichita Falls	29,512.68	59,431.75
Franchot, D. W., & Co., Tulsa, Okla.	328.18	569.53
Freeman Hampton Oil Corp., Wichita Falls	15,651.21	33,969.91
Frontier Oil Co., San Antonio	18,296.07	33,562.22
Franklin, Wirt, Ardmore, Okla.	14,548.48	30,815.08
Fuchs, Fritz, Taylor	3,591.84	7,127.75
Fuller, E. E., Wichita Falls	450.15	855.28
Fulbright, Crooker & Freeman, Houston	1,316.52	2,653.94
Fuller, Daniels & King, Wichita Falls	4,482.64	10,737.60
Gardner Brothers & Collins, Wichita Falls	9,716.15	20,103.15
Gladys Belle Oil Co., Tulsa, Okla.	6,153.64	9,351.02
Gholson, Thompson, Barkley & Crotty, Ranger	9,042.70	18,732.50
Graham & Caprito, Breckenridge	1,140.74	2,322.48
Glenridge Oil Corp., St. Louis, Mo.	5,120.90	9,430.83
Gilliland Oil Co., Tulsa, Okla.	1,801.13	3,961.91
Glass Brothers, Minerva	1,486.77	2,561.67
Galena Signal Oil Co. of Texas, Houston	103,648.85	164,905.87
Galves Oil Corp., Tulsa, Okla.	6,313.27	11,935.42
Gallagher & Lawson, Desdemona	501.08	896.52
Gallagher & Lawson, et al, Desdemona	3,665.70	7,596.77

Sound Suggestions for Spring Drilling

When you tune up the old drilling outfit for the next campaign give some attention to the Traveling Block. How did it work for you last year?

If its service was satisfactory you should not take for granted that it will be all right for another year. It probably feels tired from those tough pulling jobs last fall. Examine its working parts, make sure the lubrication channels are clean, and then well filled with several shots of the best grease you can get.

But wait a minute—

Between the time when you clean the old grease out and put new grease in, examine the bearings carefully,—every one.

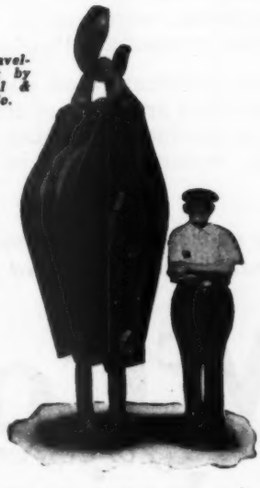
Should they show signs of wear—as plain roller bearings often do—replace them with the roller bearings that are made specially for this service—the American Heavy Duty Type C. Don't take a chance on an early tie-up or a breakdown later on. Start right! A new set of these bearings will assure you a safe and satisfactory season so far as the blocks are concerned. Should you have to go further and get brand new Traveling Blocks, Crown Blocks, or Reverse Clutches, you can remove any chance of bearing troubles (which are 90% responsible for their going wrong) by selecting equipment in which "the *Standardized* Oil Field Roller Bearings" are exclusively used.

NO WEIGHT TOO GREAT

AMERICAN

HEAVY DUTY TYPE "C"

Heavy Duty Quadruple Block built by Oil Well Supply Company



Heavy Duty Traveling Block built by American Well & Prospecting Co.

American Heavy Duty Type C Roller Bearings are standard equipment of these manufacturers:

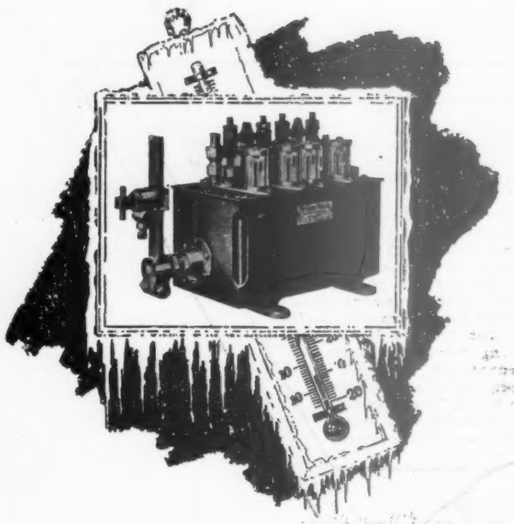
American Well & Prospecting Co.
Boykin Mchy. & Supply Co.
Lucey Manufacturing Company
Oil Well Supply Company

LARGEST MANUFACTURERS OF ROLLER BEARINGS FOR INDUSTRIAL PURPOSES

AMERICAN ROLLER BEARING CO.
PITTSBURGH, PENNA.

SPECIALISTS IN PRODUCTION OF ROLLER BEARINGS FOR THE OIL INDUSTRY

Positive Lubrication in Freezing Weather



WHEN the thermometer drops to zero and the oil in the pipe lines congeals, it is human nature to forget the usual oiling or to neglect to give it the added attention required at this time. The result is that scored cylinders and frozen bearings prevail, tying up production.

Cold weather does not affect the operation of McCord Lubricators—they will pump any kind of oil against any pressure up to 2000 pounds, requiring no attention other than the occasional filling of the reservoir.

McCord Lubricators on your pumping and drilling units are the best assurance for continuous production during this Fall and Winter season, that can be purchased.

Your nearest National Supply Company branch carries McCord Lubricators

McCord
force feed
Lubricators
Standard of the Oil fields

McCord Radiator & Mfg. Co., Detroit
LUBRICATOR DIVISION

Name and address—	Barrels	Gross Value
Gates Oil Co. of Wyoming, Oklahoma City, Okla.	7,316.13	9,227.22
Gates, E. M., Wichita Falls	894.11	1,927.54
Gardner, J. A. (lease account), Wichita Falls	5,013.35	10,513.60
Gates Oil Co., Ardmore, Okla.	6,083.40	13,886.36
General Oil Co., The, Houston	2,225.16	4,852.11
Gholson, Morman & Dorsey, et al, Ranger	3,561.53	8,312.12
Gilbert & Co., Beaumont	6,411.34	9,617.01
Ginsburg & Bohner, Wichita Falls	6,742.96	13,964.25
Gilliam, Logan, Oil Co., Fort Worth	5,630.69	4,606.20
Gilliland, Scott & Omohundro, Wichita Falls	3,303.64	6,956.00
Glasscock, Rosa V., San Antonio	715.86	1,052.32
Glasscock Leasing Syndicate, San Antonio	3,658.86	5,671.25
Godley Oil & Gas Co., Henrietta	29,509.09	58,138.87
Goolsbee & Graham, Wichita Falls	206.43	386.02
Goolsbee & Goolsbee, Wichita Falls	253.86	497.46
Goulfrey, F. L., Enid, Okla.	151.71	305.10
Golcondo Oil Co., trust estate, Wichita Falls	361.10	691.79
Goodtoe & Harris, Putnam	32.13	66.55
Golden Cycle Oil Co., The, Dalhart	548.16	1,079.87
Golden West Oil Co., San Antonio	51,905.57	58,467.57
Goodrich, Robert D., San Antonio	1,876.93	2,815.39
Goodloe, Harris, Smith & Snyder, Putnam	6,870.26	14,190.54
Granit Oil & Gas Co., Montrose, Calif.	448.46	967.27
Grayce Oil Co., Burkburnett	14,869.57	31,800.00
Graham, H. L., Wichita Falls	2,172.46	4,125.45
Grand Duke Production Co., Muskogee, Okla.	339.62	662.27
Grayburg Oil Co., San Antonio	336,886.76	395,681.90
Granam & Lash, Moran	5,965.36	12,424.13
Grady D., Electra	706.67	1,575.87
Group No. 1 Oil Co., Big Lake	1,295,841.41	2,520,898.78
Green, C. I., Wichita Falls	2,197.73	4,109.75
Gray, T. H., Fort Worth	15,022.60	19,073.41
Gulf Coast Oil Corp., Houston	27,539.15	41,308.73
Gultex Production Co., Waxahachie	5,395.84	11,629.83
Gutzler & Cottingham, Indianapolis, Ind.	78.59	147.32
Gulf Production Co., Houston	3,307,880.08	5,330,743.29
Gwynn, P. F., trustee, Iowa Park	3,836.32	7,852.59
Gwynn, P. F., Wichita Falls	3,746.88	7,416.87
Hockaday & Shaw, Wichita Falls	2,010.69	4,221.98
Halmack Oil Co., Dallas	3,050.86	5,460.90
Hunt, J. C., Wichita Falls	1,836.10	2,749.73
Hughes, William K., trustee, St. Louis, Mo.	1,709.07	3,206.83
Hooser Oil Co., Dallas	31,335.93	60,871.25
Helene Oil Corp., Wichita Falls	3,004.25	5,816.22
Hoppes, W. T., Burkburnett	193.20	387.79
Hemphill, M. R., Graham	1,459.00	2,855.15
Hanover Co., The, Wichita Falls	10,009.11	19,143.33
Hankamer, Earl C., & Co., Sour Lake	2,408.68	3,622.44
Hamilton, H. L., San Antonio	7,828.98	15,183.94
Hambleton, George, San Antonio	650.92	1,002.61
Hart Mexia Syndicate, Fort Worth	928.50	1,907.74
Hart Oil Corp., Fort Worth	695.99	1,426.06
Harvey, R. A., Houston	845.00	1,056.25
Hardie, J. M., & Co., Sour Lake	633.46	950.46
Hamon, Jake L., Ardmore, Okla.	7,874.14	14,652.84
Hardy Oil Co., Wichita Falls	1,073.64	2,163.64
Hammon, W. H., et al, Wichita Falls	11,655.60	24,978.17
Haggard, J. E., Wichita Falls	2,393.00	5,025.00
Hamilton & Wilson, Wichita Falls	8,755.15	18,473.37
Harpool, J. C., Ranger	348.00	676.60
Hardie, Joe M., Sour Lake	2,090.73	3,283.53
Hagaman Refining Co., Ranger	870.34	1,579.43
H. B. J. Oil & Gas Trust, Wichita Falls	2,743.11	5,817.06
Helvetia Oil Co., San Antonio	15,861.72	29,878.96
Hemby, J. M., Electra	852.82	1,767.96
Henderson, E. R., trustee, Tulsa, Okla.	212.01	354.23
Hester, Hawkins & Ferguson, trustee, Wichita Falls	5,809.44	12,984.09
Hefley, McIntosh & Thomas, Cameron	947.00	1,781.11
Heiber, W. S., Electra	29.58	55.91
Higgins Oil & Fuel Co., Houston	55,740.89	79,911.23
Hickory Oil & Gas Corp., Fort Worth	313.18	637.23
Hitchman & Howard, San Antonio	2,308.21	3,699.20
Hickok Producing & Development Co., Toledo, Ohio	279.30	402.98
Hillyer, F. L., et al, San Antonio	2,306.29	2,698.35
Houston Oil Co. of Texas, Houston	8,395.36	14,534.20
Houston Production Co., Houston	34,518.43	45,629.48
Homaokla Oil Co., Oklahoma City, Okla.	6,203.42	14,329.90
Hofmeir & Deegans, Fort Worth	926.28	1,741.40
Hobbs Oil Co., Wichita Falls	4,727.02	9,323.47
Hoo Hoo Oil Co., Burkburnett	111.00	208.89
Hobson & Voorhees, San Antonio	1,406.05	2,380.83
Howard Petrol Co., Wichita Falls	489.62	1,037.58
Hoffman & Page, Eastland	1,310.68	2,599.34
Howell & Easton, Electra	566.44	1,137.18
Howell, J. H., trustee, Electra	467.10	960.73
Housman, D. H., & Co., Dallas	38.78	79.73
Hope Petroleum Co., Tulsa, Okla.	7,318.21	13,538.69
Horn, John E, and E. S. Horn, Kansas City, Mo.	1,296.34	2,662.63
Holdeman, J. H., Cisco	185.28	379.90
Hoffer Oil Corp., Fort Worth	4,734.74	8,923.15
Hofmeier, John B., Fort Worth	2,407.96	5,195.62
House & Lewis Oil Co., Cameron	1,557.95	2,960.00
Hub Oil Co., Dallas	489.58	1,176.67
Humble Oil & Refining Co., Houston	3,513,294.38	6,150,857.26
Hueco Ranger Oil Co., El Paso	301.71	610.32
Humphrey & Merrett, Wichita Falls	1,822.90	3,892.84
Hughes J. K. Development Co., Mexia	370,730.70	687,625.15
Hughes J. K., Oil Co., Inc., Mexia	69,261.27	126,076.64
Humphrey's Corp., Houston	52,014.36	91,660.18
Hoffman & Killingsworth, Wichita Falls	11,863.20	14,462.20
H. Y. Oil Co., Inc., Fort Worth	17,593.29	35,213.07
Hyde Production Co., Houston	13,021.36	21,890.58
Illseng, A. G., Fort Worth	17,252.61	32,360.59
Idaho Oil Co., San Antonio	2,596.00	4,144.98
Inland Oil Co., Wichita Falls	5,621.74	11,542.71
Infield Petroleum Co., Austin	1,737.45	3,164.06
Interocean Oil Co., Iowa Park	1,102.51	2,168.29
Ironland Oil Co., Wichita, Kans.	133.15	286.01
Jones Oil Co., Wichita Falls	6,572.98	13,816.40
Johnson Brothers, San Antonio	19,333.74	35,349.27
Japhet, C. P., Houston	401.74	602.61
Jackson & Co., San Antonio	1,830.73	2,792.69
Jackson, J. S., trustee, Sour Lake	2,496.09	3,959.05
Jameson, Charles M., Moran	1,525.60	3,356.32
Johnson, O. C., trustee, Laredo	1,302.07	1,741.01
Jones, C. A., Strawn	1,751.64	3,037.51
Jones, Edwin M., El Dorado, Ark.	63,467.20	123,297.24
Jones & Merrett, Burkburnett	782.12	1,567.40
Jones, J. E., Wichita Falls	2,704.39	5,900.51
Junior Oil Co., Cross Plains	2,431.75	5,759.07
Julia Oil Co., Sour Lake	4,146.75	6,270.13
Judson Oil Co., Tulsa, Okla.	16,102.95	34,323.31
Junior Oil & Gas Line Co., Corsicana	2,608.83	2,784.19
Knotts, F. F., Wichita Falls	659.64	1,412.46
Kate Bell Oil Co., Dallas	3,425.99	7,470.35
Kavanaugh Petroleum Co., Houston	1,055.18	2,057.00
Kay, John C., trustee, Wichita Falls	6,187.69	13,406.28
K. B. H. T. Syndicate, Vernon	356.06	792.56
Keough Brothers, Cisco	5,800.34	12,778.92
Kerr, T. P., Corsicana	320.92	583.66
Kemp, Munger, Allen Oil Co., Wichita Falls	9,760.20	20,614.98
Keener Oil & Gas Co. of Texas, Tulsa, Okla.	6,332.53	11,756.40
Kent, G. C., Corsicana	91,846.65	178,162.69
Keath, E. M., Desdemona	2,146.88	4,366.08
Keen & Wolf Oil Co., Shreveport, La.	32,082.62	48,123.94
Kemrow Producing Co., Wooster, Ohio	20,976.86	43,324.12
Kent Middleton Refining Co., Corsicana	6,450.97	13,075.77
Kirby Petroleum Co., Houston	37,893.37	71,036.10
Kishi, K., Terry	278.80	418.20
Kimmell & Dillard, Wichita Falls	6,200.86	12,684.71
Kirk & Brewer, Gorman	16,666.02	36,031.31
King Petroleum Corp., Wichita Falls	3,818.28	7,364.68
King & Daniels, Wichita Falls	712.20	1,558.36
Killam Condron Oil Co., Laredo	1,772.77	1,772.77
Kilgore, M. H., Beaumont	1,001.80	1,502.70
Killam, O. W., Laredo	228,004.03	228,012.01
Kitselman & St. Albans, Laredo	57,267.61	67,575.58
Klemcke, George, trustee, Von Ormy	2,131.28	3,432.78
Kleiner Brothers, Cisco	4,625.19	9,198.27
Kleinfeeder, B. F., Breckenridge	4,796.44	9,080.42
Kornfield, Mrs. Fannie, Tulsa, Okla.	248.53	455.40
Kolp, C. F., Electra	24,973.58	50,143.28
Koury, Mike, Houston	2,874.54	5,899.10

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Tubing failures, due to crystallization and rust, are costing oil operators large sums of money. Just how much, nobody will ever know, for the cost of the tubing itself is small compared with the attendant loss of production.

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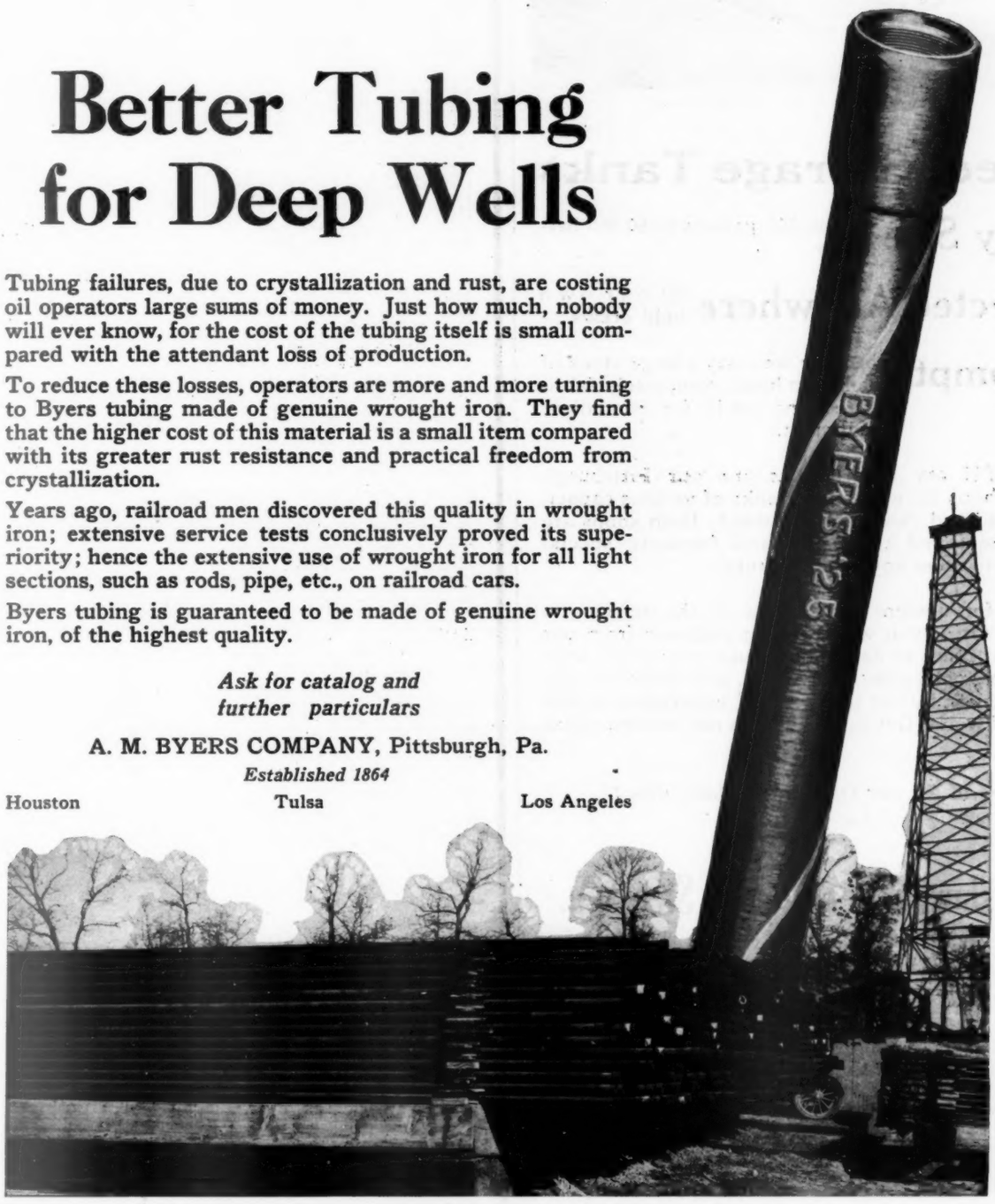

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Name .....

Company .....

City ..... State .....

Name and address—	Barrels	Gross Value
Kolp, C. F., agent, Electra	3,688.80	5,163.80
Kurz Oil Co., Somerset	743.44	984.90
Kurz, A. A., Somerset	339.25	496.72
Kuhlemerer & Kleiner Oil Co., Cisco	1,916.92	3,873.17
Kurz, A. A. (Jokel farm), Somerset	58.95	71.70
Long, Roy I, et al, Navasota	1,924.90	1,924.90
Laredo Oil Co., Laredo	5,304.02	5,469.22
Langford, W. S., Wichita Falls	2,670.30	5,194.98
Lewis, J. B., et al, Eastland	3,110.61	6,228.32
Laclede Petroleum Co., Dallas	156.00	351.00
Lake View Oil Co., Sour Lake	17,103.15	25,654.72
Lamb, George E., Brownwood	3,474.53	4,514.73
Landreth Production Co., Breckenridge	236,281.99	427,258.87
Larkin, W. B., Wichita Falls	465.01	954.19
Lange, I. A. attorney in fact, Wichita, Kans.	931.99	2,002.01
Lawson & Pace, Nowata, Okla.	5,365.65	11,244.74
Lay Oil Co., Cisco	1,010.15	1,961.66
Lawson, Eugene B., Nowata, Okla.	62,101.38	125,301.86
Lake Erie Trust Co., trustee, Cleveland, Ohio	1,058.04	2,271.81
Lamarque Co., The, Texas City	1,380.00	1,573.20
Leonard, George, San Antonio	262.51	303.73
Lee Philips Oil Co., Minerva	1,487.36	2,719.22
Lee Homer, Wichita Falls	2,434.78	5,292.09
Lee Oil Co., Minerva	2,595.92	5,148.12
Lee Haus Oil Co., Inc., Minerva	1,937.70	3,831.66
Lee Nehause Oil Co., Inc., Minerva	580.15	1,177.09
Lewis Oil Co. and National Refining Co., Pittsburgh, Pa.	47,590.07	86,947.06
Lewis Oil Co., Pittsburgh, Pa.	1,736.30	3,143.74
Lebow, C. H., Tulsa, Okla.	1,236.68	2,665.88
Leonard Oil Co., San Antonio	504.98	770.52
Lee Cook Oil Co., Electra	1,250.22	2,568.43
Letwin, Sam, Breckenridge	1,320.92	2,560.07
Lee, R. Q., Cisco	229.60	472.20
Lesh, P. F., Wichita Falls	5,685.80	10,917.73
Light Oil Co., Beaumont	781.02	1,221.53
Little Caddo Syndicate, Fort Worth	5,294.61	8,716.23
Livingston, Henry S., Fort Worth	119.73	199.92
Little, William, Breckenridge	602.24	1,091.38
Lion Tamers Oil Corp., Albany	2,689.11	4,488.63
Linedo Oil Co., Lincoln, Neb.	5,507.17	5,614.56
Liberty Oil & Gas Trust, Wichita Falls	2,821.13	5,036.42
Lone Star Gas Co., Dallas	14,977.63	31,171.34
Lowry Oil Corp., Wichita Falls	4,711.78	9,704.28
Lone Star Refining Co., Wichita Falls	675.90	1,231.56
Lowe, Delaney & Carter, De Leon	19,134.61	41,346.66
Louisiana Oil & Refining Co., Shreveport, La.	31,547.02	47,155.62
Long, F. M., Humble	14,915.00	19,192.00
Lomax, Thornton, Wichita Falls	47,565.04	102,466.74
Lucky Six Oil & Gas Co., Bangs	156.00	171.60
Lucey Petroleum Co., Dallas	66,113.17	130,647.81
Luckey & Barkley, Rockdale	283.19	530.56
Lytle Oil Co., Lytle	408.92	519.88
Meredith, J. D., Moran	726.10	1,039.40
Martin Brothers, New York City	1,570.23	2,066.84
McBride, W. C., Inc., St. Louis, Mo.	3,595.01	5,157.90
McGlothlin, Mrs. L. W., Burkburnett	1,057.23	1,900.62
Miller & Miller, Putnam	883.60	1,856.25
Mid-Continent Petroleum Co., Tulsa, Okla.	26,393.20	52,540.39
Miller, Herbert G., Eastland	75.73	121.53
Magee Brothers, Electra	8,332.44	18,186.07
Marnet Oil Co., New York, N. Y.	3,378.65	5,926.03
McLester Oil Co., Ranger	2,284.00	5,724.11
McLester Oil Co., Breckenridge	7,873.00	15,241.65
Murchison & Fain Oil Co., Wichita Falls	183,206.14	387,111.75
McDonald, W. W., et al, Dallas	2,124.83	4,092.41
Matador Oil & Gas Co., Quanah	421.01	874.18
Mary Elizabeth Oil Co., Dallas	13.09	25.78
Madison Oil & Gas Co., Fort Worth	2,279.61	4,987.60
Magnolia Petroleum Co., Dallas	1,476,523.54	2,775,553.33
Maben Oil Corp., Wichita Falls	1,084.50	2,109.14
Marsalis Brothers, Humble	3,410.42	5,116.84
Margay Oil Corp., Tulsa, Okla.	4,596.67	9,799.21
Maer & Staniforth, Wichita Falls	14,351.08	32,635.36
Mann & Forbes, Graham	4,061.34	8,604.81
Martin & Harrison, Houston	4,607.37	7,005.66
Marland Oil Co., Fort Worth	76,877.79	104,784.10
Maskell & Maskell, Humble	3,065.00	4,597.00
Magee & Steps, Electra	5,567.20	11,858.14
Martin Petroleum Co., Humble	4,467.73	6,702.00
Maxson Co., Wichita Falls	5,590.17	11,674.19
Mendenhall, L. F., Oil Co., Cross Cut	8,119.14	18,317.98
Medina Oil & Gas Association, San Antonio	378.33	560.21
Meridian Petroleum Corp., Tulsa, Okla.	5,625.48	12,247.72
Mecom Oil Co., Houston	27,612.00	41,418.00
Mennis, G. W., Wichita Falls	3,074.79	6,452.12
Minnter Oil Corp., Wichita Falls	758.87	1,406.46
Mitchell, Almon J., Wichita Falls	47.91	93.42
Miami Laredo Oil Co., Laredo	999.88	1,015.42
Mills & Garrity, Corsicana	1,681.21	2,521.81
Minerva Petroleum Co., Minerva	3,570.10	7,357.45
Minor Oil Co., Beaumont	10,362.75	15,554.12
Mid-Kansas Oil & Gas Co., Findlay, Ohio	117,803.12	232,285.87
Middleton Tex. Oil Syndicate, Eastland	646.31	1,134.98
Mitcham, G. P., Fort Worth	804.58	1,428.53
Miller, Herbert G., Eastland	127.56	215.19
Milham, The, Corp. of Texas, San Antonio	6,941.52	12,232.92
Middleton, J. H., Collinsville, Okla.	2,269.85	3,449.07
Milam Production Co., Rockdale	2,480.41	5,010.43
Midwest Exploration Co., Amarillo	4,410.30	4,410.30
Midco Oil Corp., Tulsa, Okla.	187.82	336.30
Mirando Oil Co., Laredo	58.92	58.92
Mitchell, Jones & May, Cross Plains	5,923.95	12,590.50
Moore, Frank L., trustee, Tulsa, Okla.	4,852.77	9,762.10
Mook Texas Oil, Inc., Fort Worth	23,793.46	52,157.82
Mohegan Oil Co., Mohegan Lake, N. Y.	385.04	568.39
Moore & Henderson, Tulsa, Okla.	646.30	1,198.60
Moore, N. A., Eastland	968.83	1,755.79
Mogul Oil Corp., Eastland	227.30	337.90
Montgomery, Rae & Montgomery, Sedwick	2,852.49	5,562.35
Morrison, St. John & Kleiner Brothers, Cisco	8,296.27	16,469.12
Moss & Keys, Mexia	191.67	339.25
Moss & Kelling, Mexia	13,340.14	27,880.89
Moutray Oil Co., Cisco	8,898.86	8,898.86
Moorman, Cull Co., trustee, Ranger	2,564.74	5,633.76
Morton, A. D., Bartlesville, Okla.	865.00	1,525.00
Morris, Clifford, et al, Wichita Falls	12,131.31	24,141.64
Moran, J. J., Wichita Falls	1,887.76	2,810.17
Murphy Oil Co. of Pa., Philadelphia, Pa.	1,065.09	1,551.49
Mutual Oil Consolidated, Fort Worth	1,255.80	2,554.40
Multiple Oil Co., The, Wichita Falls	6,251.16	13,053.50
M. & V. Oil Co., Wichita Falls	4,479.29	9,661.83
McClure, W. D., & Son, Iowa Park	1,497.18	3,221.35
McCarty, Ed, Galveston	609.53	1,176.58
McCarter, R. C., Cisco	1,644.73	3,282.30
McCullough, Everett, receiver, Wichita Falls	514.10	1,039.16
McDabb Oil Co., Wichita Falls	2,471.76	5,076.47
McDaniel, E. R., Cisco	568.82	1,190.11
McDonald, A. C. and M. C., Putnam	2,800.38	5,888.50
McEwan, J. P., trustee, Fort Worth	2,003.17	3,872.21
McElroy Oil Co., Amarillo	10,401.45	14,604.95
McLester, Jerome, Cisco	4,546.09	8,866.45
McMan Oil & Gas Co., Tulsa, Okla.	67,901.00	129,474.84
McNamara Oil Co., Beaumont	3,860.07	5,790.10
McNallen & Griffin, Tulsa, Okla.	5,435.20	9,700.71
New England Oil & Refining Co., Hampton, Mass.	127.50	167.05
Nortex Drilling & Development Co., St. Louis, Mo.	396.96	804.61
National Oil Co., San Antonio	1,150.23	1,787.53
National Supply Co. of Texas, Toledo, Ohio	96.88	159.85
Navarro Oil Co., Houston	110,557.38	202,708.41
National Petroleum & Refining Co., Wichita Falls	2,039.88	4,548.13
Newblock Oil Co. of Texas, Tulsa, Okla.	11,921.19	22,125.32
New Domain Oil & Gas Co., Pittsburgh, Pa.	6,636.58	15,007.53
Netherton & Heydrick, trustee, Wichita Falls	713.98	1,438.25
Nellis, J. A., Putnam	682.00	1,140.00
Necessity Oil Corp., Dallas	491.00	800.24
Nine Hundred Oil Co., Wichita Falls	2,203.59	4,450.78
Nickel, G. W., et al, Putnam	5,802.92	4,433.00
Norman Oil Co., Wichita Falls	5,848.40	12,361.41
Noble, Charles F., Oil & Gas Co., Tulsa, Okla.	4,925.55	9,176.15
Noak Oil Co., Rockdale	3,648.92	7,427.32
Norba Oil Co., Wichita Falls	3,012.01	6,475.93
Nordsy Oil Co., Wichita Falls	10,428.98	21,737.25
North American Oil & Refining Co., Dallas	5,286.69	10,315.60

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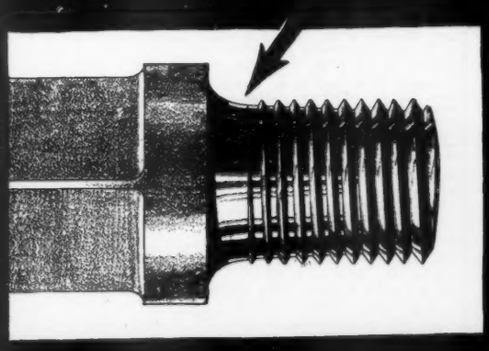

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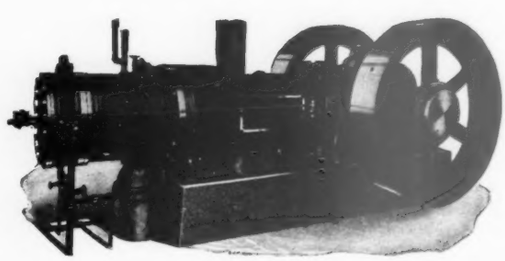

Name and address—	Barrels	Gross Value
Nueva Oil Co., Laredo	2,158.81	2,214.65
Number Nine Oil Co., Tulsa, Okla.	4,008.32	8,149.31
Nutt & Gates, Wichita Falls	1,490.26	3,696.52
Oakwood Oil Syndicate, Fort Worth	1,870.40	3,834.32
O'Donohoe & Gates Drilling Co., Wichita Falls	23,829.50	29,483.35
Offenbacher, Emile, Tulsa, Okla.	425.78	822.29
Offenbacher, Emile, trustee, Tulsa, Okla.	60.92	110.86
Oil Investment Co., Wichita Falls	9,637.19	18,961.87
Oktoha Co., Tulsa, Okla.	1,127.10	2,349.56
Old Colony Oil Co., Dayton	1,914.66	2,871.90
Old Ocean Oil Co., Kansas City, Mo.	7,465.29	9,658.27
Omilak Oil Co., Spokane, Wash.	532.00	771.40
O'Neil, H. A., Wichita Falls	2,076.47	3,907.99
Orange Petroleum Co., Orange	124,585.09	164,309.18
Oriental Oil Co., Dallas	3,155.85	6,124.46
Orth, Thomas R. T., Bartlesville, Okla.	283.31	523.34
Osage Development Co., Thurber	131,469.57	262,367.89
Overby, J. D., Iowa Park	1,159.79	2,373.98
Owenwood Oil Corp., Fort Worth	4,311.43	7,819.99
Owenwood Pool No. 3 (J. W. Robbins, trustee), Fort Worth	15,555.50	29,192.29
Oxford Oil Co., Houston	60,656.12	113,727.78
Ozark Petroleum Co., San Antonio	1,215.05	1,836.19
Parry Oil Co. of Texas, Fort Worth	1,687.58	3,321.32
Parkersburg Drilling Co., Cisco	4,361.76	8,352.23
Palmer & Chenault, Wichita Falls	496.29	1,020.01
Paraffine Oil Co., Houston	11,378.90	17,030.70
Paggi, Charles, & Co., Beaumont	6,116.94	9,176.15
Paggi Brothers Oil Co., Beaumont	9,774.78	14,662.16
Panhandle Refining Co., Wichita Falls	80,818.36	157,614.98
Palmer, Fredie, Oil Co., Rockdale	311.82	549.79
Park, Frazer & Scott, Wichita Falls	2,923.71	6,316.32
Payne, P. G., et al, Wichita Falls	997.65	2,140.55
Patten, Nannie S. (survey), Canadian	1,579.44	1,809.84
Patterson, W. A., Fort Worth	1,679.85	3,735.89
Pandem Oil Corp., Tulsa, Okla.	14,131.82	29,020.91
Petroleum Developing Co., New York, N. Y.	1,097.40	2,016.23
Pender Production Co., Denton	23,288.86	42,317.87
Pennok Oil Co., Tulsa, Okla.	22,403.61	43,285.57
Perkins, J. J., Wichita Falls	5,022.93	10,729.19
Perkins & Cullum, Wichita Falls	71,341.16	150,939.68
Petroleum Producers No. 2, Wichita Falls	105,262.92	217,679.27
Pepin & Bennett, trustees, East Hampton, Mass.	127.05	167.05
Penn, R. R., Dallas	7,614.10	15,683.49
Phillip Brothers, Beaumont	2,441.47	3,662.19
Phillip & Milam, Chelsea, Okla.	106.89	208.43
Phillips Oil Co., San Antonio	1,092.75	1,168.61
Phillips Petroleum Co., Bartlesville, Okla.	192,632.94	407,402.79
Pivot, M. E., Sour Lake	5,319.78	7,979.67
Pitzer & West, Breckenridge	14,568.88	27,098.11
Pinto Oil Co., Mineral Wells	310.14	310.14
Pioneer Oil Gas & Refining Co., Danville, Ill.	1,987.12	3,018.57
Pierce Petroleum Corp., New York, N. Y.	3,262.23	6,932.01
Plains Production Co., Wichita Falls	17,935.49	37,005.14
Planet Petroleum Co., Bartlesville, Okla.	53,558.26	112,193.84
P. & M. Oil Co., Shreveport, La.	138.12	284.67
Pois, M., trustee, Wichita Falls	373.02	752.30
Pois & Kruger, trustee, Wichita Falls	14,364.04	29,980.04
Powell, J. L., Wichita Falls	667.26	1,355.37
Porter & Barnard, Wichita Falls	247.36	527.88
Porter, B. E., & Co., Wichita Falls	307.40	654.78
Powers Production Co., Houston	4,371.69	6,262.43
Pomona Mutual Oil Syndicate, Pomona, Calif.	5,403.02	11,909.72
Pomona Texas Oil Syndicate, Pomona, Calif.	184.62	325.57
Primrose Oil Co., Sour Lake	1,017.66	1,526.49
Prairie Oil & Gas Co., Independence, Kans.	399,947.52	816,614.85
Progressive Production Co., Kansas City, Mo.	6,662.01	14,521.92
Prairie Lee Production Co., San Antonio	17,543.74	18,755.82
Priddy, Walter M., Wichita Falls	15,756.56	30,882.86
Producers Supply & Tool Co., Marietta, Ohio	1,262.31	2,462.06
Prescott Phoenix Oil & Gas Co., Wichita Falls	2,045.53	3,893.25
Prescott Phoenix Oil & Gas Co., Muskogee, Okla.	339.63	662.27
Preston Oil & Gas Co., Brownwood	348.00	638.21
Price Russell & Co., Ranger	7,412.00	16,014.74
Prewitt Syndicate, Inc., Humble	6,852.57	10,689.63
Pure Oil Co., Columbus, Ohio	1,593,636.90	2,990,320.74
Quincy Oil Co., Chillicothe	159.16	330.58
Quakins Petroleum Co., Mirando City	11,211.00	24,384.09
Ray & Massie, Wichita Falls	53,396.97	112,002.99
Ranger Gulf Corp., Tulsa, Okla.	7,687.53	14,741.88
Ramming, R. W., Wichita Falls	11.68	22.78
Ramming, W. F., Wichita Falls	27.68	56.17
Ramming, Staley & Ramming, Wichita Falls	883.77	1,980.35
Ramming & Saunders, Wichita Falls	5,357.04	11,149.99
Rayzor, J. P., Wichita Falls	197.60	399.94
Ray Featherstone Oil Co., Wichita Falls	6,161.28	12,856.54
Republic Production Co., Houston	601,221.66	933,240.50
Red River Oil Co., Tulsa, Okla.	18,801.01	38,296.84
Reclamation Co., Fort Worth	18,025.50	38,296.84
Reinhart, M. J., trustee, Oklahoma City, Okla.	1,096.23	2,293.02
Rentex Oil Co., San Antonio	7,131.23	10,209.62
Reliance Oil Co., Houston	416.55	624.82
Regna Oil Co., Saratoga	5,237.50	6,796.03
Reiter Foster Oil Corp., Tulsa, Okla.	7,058.14	14,282.04
Rhodes & Higher, Breckenridge	17,052.16	34,905.08
Rio Bravo Oil Co., Houston	316,468.82	511,108.14
Riner & Bailey, Wichita Falls	82,382.59	183,281.11
Riley, Henry, & Co., Breckenridge	601.26	1,075.79
Rio Grande Petroleum Co., Houston	10,405.17	10,674.32
Rountree & Simpson, Rockdale	370.66	752.44
Rockdale Oil Co., Inc., Minerva	480.70	871.67
Robertson, J. A. and L. A., Santa Anna	225.00	337.50
Rowe, M. D., Wichita Falls	307.70	573.42
Robinson, Arthur D., Dallas	10,808.54	23,718.81
Roxana Petroleum Co., St. Louis, Mo.	164,988.93	311,003.61
Rocky River Oil Co., Wichita Falls	599.68	1,146.99
Rosenberg, Jacob, Tulsa, Okla.	243.35	466.57
Robinson, J. B., Sour Lake	1,046.13	1,569.18
Rockwell, J. A., & Co., Warren, Pa.	3,526.90	6,225.67
Roeser & Penlieton, Breckenridge	16,735.80	31,744.88
Roberts, M. C. & S. G., Dallas	154.23	208.21
Root, C. M., et al, Eastland	16,306.63	29,938.11
Root & Rhodes, Eastland	32,481.00	71,187.00
Ross Amigos Oil Co., Laredo	7,660.88	8,965.35
Ross Segunda Oil Co., Laredo	835.86	1,003.03
Rolyat Production Co., Houston	3,659.43	12,899.45
Rountree, Lee, Oil Co., Rockdale	1,718.82	3,215.05
Ross, D. M., Wichita Falls	1,434.94	3,013.37
Ross & Slicker Oil Co., Fort Worth	1,449.59	2,870.18
Rowan, A. H., trustee, Corsicana	3,317.34	6,180.05
Rountree, White & Simpson, Rockdale	7,504.87	12,498.54
Robert Oil Corp., Breckenridge	29,736.36	61,692.97
Roamer Oil Co., Wichita Falls	5,626.04	10,978.40
Rockdale Development Co., Rockdale	1,218.00	2,496.90
Rockdale, Jr., Oil Co., Rockdale	1,201.74	2,532.22
Rubsom & Hunter, Wichita Falls	7,112.84	8,720.23
Ruyle Farm Oil Co., Wichita Falls	10,820.22	22,778.28
Russell Sanderson Oil Co., Fort Worth	1,009.91	2,112.64
Ruby Oil Co., Minerva	1,243.84	2,567.07
Rumbaugh, Reeder & Cook, Wichita Falls	741.42	1,145.80
Ruthada Oil Co., Ardmore, Okla.	2,660.16	5,405.24
Ryan Petroleum Co., Bartlesville, Okla.	55,256.85	119,847.81
Rycade Oil Corp., Houston	180,876.45	229,994.85
Rydal Oil Co. (Coursen Matches), San Antonio	26,550.22	32,659.19
Rydal Oil Co., San Antonio	4,492.61	5,615.77
Samuel West & McCandless, Robinson, Ill.	456.59	828.11
San Benard Oil Co., Beaumont	3,743.71	5,615.56
Saunders, John R., Wichita Falls	27.68	56.17
Saratoga Oil Co., Wichita Falls	3,656.42	7,766.22
Sammel, J. B., Robinson, Ill.	4,656.18	9,008.62
Scarbrough, W. A., Burkburnett	2,200.75	5,546.50
Schlicher Oil Co., Beaumont	809.37	1,214.05
Schoolfield, R. E., Wichita Falls	249.72	497.05
Schott Oil Co., Laredo	3,266.70	3,327.01
Schultz & Pois, Wichita Falls	1,917.66	3,997.40
Seybert Brothers & Barger, Moorningsport, La.	2,499.97	4,874.95
Senter, E. J. Jr., Dallas	514.44	965.63
Sessions, I. P., Rockdale	596.86	1,049.31
Shappell, T. O., & Sons, Wichita Falls	4,120.11	8,564.98
Shappell Oil Co., Wichita Falls	94,321.15	198,329.47
Shaw & Rathke, Wichita Falls	53,412.66	112,631.38
Sheman Oil & Gas Co., Pittsburgh, Pa.	180.06	342.57
Shertzer Brothers, Dewey, Okla.	11,587.99	24,548.96
Shackelford Oil Co., Putnam	4,723.17	9,440.13

The Sharples Process

The Gulf Refining Company, who have been operating the Sharples Process for the past year, have recently ordered a sufficient number of Sharples machines to double the output of their initial Sharples plant. The photograph below depicts a portion of the installation.

MAX. B MILLER & CO. INC

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Every twelve inches

Hoyt's Wire Solder

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Hoyt's Wire Solder is branded every twelve inches, so you may know you are using the exact quality best adapted for the job. And you also may know you are paying for the exact quality you specify.

More than 50 years' experience in manufacturing Babbitt, Solder, Bearings and Die Castings, Britannia Sheet, Special Alloys, Type Metals.

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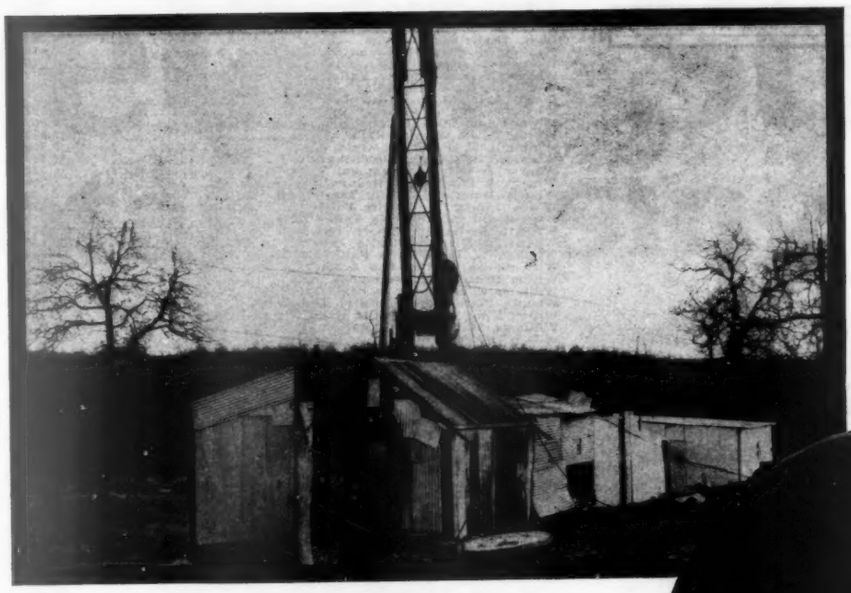
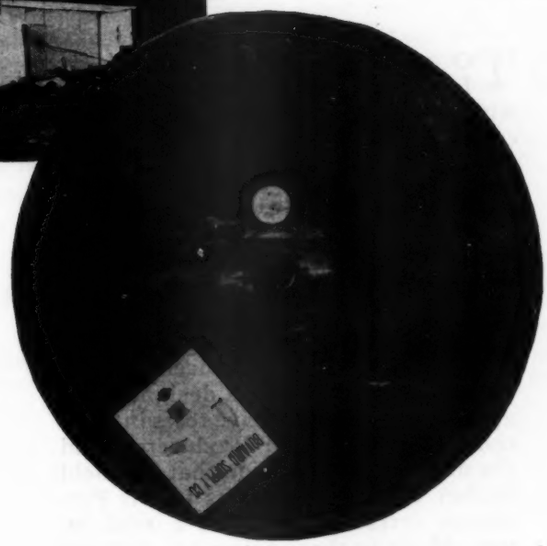
NEW YORK CHICAGO DETROIT

F

Name and address—	Barrels	Gross Value
Shade & Whittaker, Sweetwater	379.36	$01.09
Shaw, Fox & Adams, Burkett	5,908.00	8,497.89
Sinclair Oil & Gas Co., Houston	132,763.33	198,803.20
Sinclair Oil & Gas Co., Tulsa, Okla.	63,125.65	132,309.63
Simms Oil Co., Dallas	425,641.23	838,960.80
Sipe Springs Oil Co., Sipe Springs	48.96	80.78
Silurian Oil Co., St. Louis, Mo.	4,906.08	8,379.79
Sirman, S. J. Oil Co., Brownwood	7,691.00	8,545.72
Silk, W. W., Wichita Falls	80.69	158.43
Sink, Joel, Corsicana	140.00	249.80
Sitrin, Sam, & Morris, Tulsa, Okla.	333.39	600.14
Sigler Oil Co., Inc., Wichita Falls	2,794.46	4,724.71
Silk, Bullington & Clark, Wichita Falls	12,423.46	18,600.56
Sirconich & Thomas, Houston	2,782.35	3,523.77
Skinner, E. W., Oil Co., Saratoga	5,826.44	7,739.66
Skelly Oil Co., Tulsa, Okla.	84,605.05	147,849.60
Slick, T. B., Oklahoma City, Okla.	14,946.57	32,420.77
Smith, E. L., Oil Co., Mexia	99,074.33	185,233.37
Smith, R. E., Corsicana	662.28	1,241.25
Smith, A. C., et al, Nacogdoches	1,117.73	2,326.67
Snider, C. W., Wichita Falls	3,439.60	7,642.46
Snowden & McSweeney Co., New York, N. Y.	58,553.38	124,804.19
Somerset Crude Oil & Refining Co., San Antonio	6,056.75	9,467.34
Somerset Oil Co., San Antonio	1,658.45	2,297.21
Southern Petroleum Co., Houston	8,601.38	12,902.07
Southwestern Petroleum Co., Tulsa, Okla.	516.72	991.05
Southern States Lease & Production Co., Los Angeles, Calif.	2,232.17	5,402.30
South Stephens Oil Syndicate, Fort Worth	166.32	312.68
Southern Drilling & Production Co., Bay City	552.70	829.08
Speed, C. D., Corsicana	156.12	283.94
Sprawls, Harwell & Cook, Abilene	1,005.68	2,136.23
Steele, Charles, Moran	394.18	667.04
Stull, R. O., Wichita Falls	23.06	44.75
St. Louis Oil & Development Co., Wichita Falls	840.29	1,644.99
Stella Oil Co., Beaumont	9,395.10	14,039.65
States Oil Corp., Eastland	56,327.36	122,034.58
Standard Oil Land & Leasing Co., Electra	340.55	711.78
Stovall, E. C., Graham	1,836.64	3,775.23
Staley Mashburn Oil Co., Wichita Falls	310.42	593.46
Stephens Oil Co., Sour Lake	930.45	1,395.67
Stone, F. W., & Co., Cross Plains	4,177.18	9,326.79
Standifird Brothers, Iowa Park	1,929.38	3,514.20
Strawn Petroleum Co., Denver, Colo.	7,506.22	15,931.81
Sturm, H. L., Ardmore, Okla.	118.05	217.56
Strauss, Allen, Oil Co., Wichita Falls	4,941.15	10,289.84
Staley, J. A., Wichita Falls	6,842.83	14,346.68
Staley, J. A., & Co., Wichita Falls	9,653.15	20,028.62
Staley & Fritz, Wichita Falls	6,781.44	13,917.67
Staley, Langford & Wynne, Wichita Falls	593.58	1,146.36
Staley & Wynne, Wichita Falls	159,486.24	332,271.84
Stout Petroleum Co., Brownwood	66.00	97.34
Stroube & Stroube, Corsicana	145,158.29	285,253.38
St. Mary's Oil & Gas Co., St. Mary's W. Va.	13,620.26	26,240.50
Stock, H. I., Cisco	2,925.06	6,084.14
Star Drilling Co., Wichita Falls	6,263.40	13,169.90
Stewart, W. B., Robinson, Ill.	590.25	1,228.59
Superior Oil Co., Superior, Wis.	42.97	88.37
Sun Oil Co., Dallas	438,410.18	779,147.35
Supreme Oil Co., Orange	6,004.50	9,006.50
Superior Oil & Prod. Co., Lexington, Ky.	2,853.66	5,384.40
Sunny Jim Oil Co., Tulsa, Okla.	5,764.41	5,620.34
Summerfield Oil Co., Tulsa, Okla.	322.72	652.00
Swensendale Oil Co., Caddo	18,648.29	35,506.20
Swicegood, F. L., trustee, Eastland	226.59	457.91
Talley, Oscar, Burkburnett	230.06	445.05
Taylor Sibley Syndicate, Dallas	2,239.98	4,674.55
Tannehill, L. B., Albany	5,229.00	9,134.46
Tatum Lease Syndicate, Detroit, Mich.	624.31	1,120.35
Texas Plains Syndicate, Chicago, Ill.	388.86	730.11
The Texas Co., Houston	2,430,441.47	4,183,183.74
Texas Pacific Coal & Oil Co., Thurber	214,940.75	442,949.04
Texhoma Oil & Refining Co., Wichita Falls	478,146.01	964,491.07
Texas Petroleum Development Co., Cameron	11,447.60	23,511.33
Texokan Producing Co., Coffeyville, Kans.	8,595.00	17,621.13
Texas Oil Production Co., Dallas	247.06	372.28
Texas Consolidated Oil Co., San Francisco, Calif.	3,658.60	6,775.31
Texas Fidelity Oil Corp., Louisville, Ky.	19,772.04	42,799.82
Texas Standard Oil Co., Houston	1,439.73	2,747.90
Texas Buffalo Oil Co., San Antonio	780.24	1,198.36
Texas Southern Oil & Development Co., San Antonio	2,465.75	4,025.99
Texas Oil Corp., Dallas	239.24	433.31
Texas Developing Co., Eastland	1,808.06	2,605.16
Texas Exploration Co., Houston	13,096.48	18,073.14
Texo Oil Co., Laredo	5,411.87	5,411.87
Texon Oil Land Co. of Texas, Big Lake	736.74	1,423.89
Teatsorth, L., et al, Eastland	11,213.53	23,377.92
Texas Unity Oil Co., Dallas	42,437.82	89,709.53
Thomas, H. J., Somerset	364.24	615.56
Thaxton, W. H., Austin	313.96	521.17
Thompson Oil Corp., Ranger	6,524.11	14,642.64
Thies Oil Co., Sour Lake	3,110.14	4,665.21
Thompson & McKinnis, Ranger	1,506.07	3,162.74
Thomas Mack, Wichita Falls	145.52	264.26
Thall Oil Co., Beaumont	8,778.95	17,165.49
Thompson, J. L., trustee, Ranger	5,576.90	11,750.57
Thomason, E. M., trustee, Denver, Colo.	5,399.54	12,706.16
Thebedeaux, D. L., Batson	458.75	688.12
Tidal Oil Co., Tulsa, Okla.	167,425.50	316,617.67
Tidal Osage Oil Co., Tulsa, Okla.	1,964.67	3,505.53
Timblin, W. E., Wichita Falls	185.19	404.87
Tillery, L. J., Oil Co., Beaumont	3,680.34	5,368.69
Tidwell, R. V., trustee, Kissinger lease, Graham	1,556.77	2,951.67
Tidwell, R. V., trustee Hughes lease, Graham	935.61	1,948.45
Tidwell, R. V., trustee Castello lease, Graham	1,087.00	2,180.57
Tidwell, R. V., trustee Bower lease, Graham	1,449.94	2,883.43
Tidwell, R. V., trustee Mahaney lease, Graham	4,829.56	9,944.74
Trinity Production Co., Dallas	918.26	1,913.91
Tripplehorn, J. W., & Dr., Fort Worth	2,378.62	4,732.47
Triangle Oil Co., Wichita Falls	1,073.52	2,465.53
Transcontinental Oil Co., Pittsburgh, Pa.	10,158.07	19,259.38
Trans-Bay Oil Co., Galveston	90.00	108.00
Trinity Royalties Co., Denver, Colo.	826.83	1,662.35
Trio Production Co., Olney	70,826.65	145,203.12
Trimount Petroleum Co., Boston, Mass.	8,974.07	18,122.50
Tulsa Co., Wichita Falls	3,675.13	7,641.41
Tucker & Fox, Dallas	18,068.73	34,206.58
Tucker, C. A., Dallas	8,702.06	16,368.78
Tucker & Langford, Wichita Falls	62,568.03	122,624.41
Two Republic Oil & Gas Co., Laredo	9,408.84	9,619.90
Tyson Oil Co., Sour Lake	827.62	1,391.43
Unity Oil Co., Beaumont	13,161.54	20,663.14
United Production Co., Inc., Wichita Falls	4,293.99	9,016.64
United North & South Oil Co., Luling	1,451,897.73	1,714,025.29
United Oil & Fuel Co., Philadelphia, Pa.	1,409.77	2,114.65
Underwood Drilling Co., Wichita Falls	7,476.02	15,923.92
Uncle Tom Oil Co., Minerva	9,015.04	18,795.90
Upham Gas Co., Mineral Wells	1,750.51	4,345.96
U. S. Texas Oil Corp., Dallas	11,865.08	21,939.12
Val Verde Oil Co., Del Rio	2,973.00	4,599.71
Vacuum Oil Co., Houston	64,447.75	96,671.64
Valley Oil Co., Wichita Falls	3,174.85	6,323.95
Virginia Oil Association Co., Fort Worth	3,468.71	7,462.50
Wallace, Charles William and wife, Wichita Falls	58,774.18	120,785.46
Walker, B. S., Breckenridge	2,811.97	5,305.16
Walker Caldwell Prod. Co., Breckenridge	10,168.32	19,503.10
Waggoner, R. M., special, Wichita Falls	4,298.26	9,186.50
Watkins, J. A., Wichita Falls	697.97	1,399.34
Ward, Mrs. Fay R., Dallas	130.61	212.80
Walker, A. S., et al, Wichita Falls	7,021.33	14,744.79
Waite Phillips Co., Tulsa, Okla.	145,686.80	287,232.64
Watson, M. R., Fort Worth	2,000.00	2,500.00
Wakefield, M. E., et al, Cross Plains	1,275.45	1,683.09
Walker, Sammel & Stewart, Breckenridge	2,171.00	4,492.97
Warren, L. A., Cisco	1,895.19	3,463.34
Warren, Jesse R., Wichita Falls	1,835.29	3,394.59
Watters Oil Co., St. Louis, Mo.	364.00	546.00
Webb Oil Co., Humble	3,588.63	5,379.96
West Production Co., Houston	5,494.26	8,241.39
Weber, Howard, trustee, Bartlesville, Okla.	10,678.95	19,900.69
Western Oil Fields Corp., Denver, Colo.	77,553.21	138,196.94
Welborn Oil Co., Saratoga	9,802.87	10,922.29
Welles, W. G., trustee, Nacogdoches	546.00	1,092.00
Western Oil Corp., Tulsa, Okla.	2,177.46	4,723.53





The above photo shows the Industrial Oil & Gas Company's Creekmore No. 3, and the Hazard line used on this well. This is the third well on which this line has given perfect service. Below are H. M. Roifsnyder, driller, (right) and Hyatt Mays.

When a good wire rope meets a good, live driller—

Fast friendships are bound to result. That's how HAZARD makes friends

Drillers and contractors who consider wire rope from the angle of service—dependability, uniformity and long life —choose HAZARD.

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The Tidal Oil Company

TO use Sheffield Sucker Rods is to learn of the extreme satisfaction with which they perform. Many large companies now using.

SHEFFIELD SUCKER RODS

Sheffield Sucker Rods are manufactured complete by a producer of steel. The perfected joint was designed and approved after exhaustive tests in close cooperation with Oil Producers. And the universal satisfaction that Sheffield Sucker Rods now renders to Oil Producers certainly warrants a trial by you. Made in three sizes: ¾", ⅝" and ⅞", in both Box and Pin and Double Pin types.

Sheffield Sucker Rods may be secured direct from our plant or from all stores of the International Supply Company.

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Successors to

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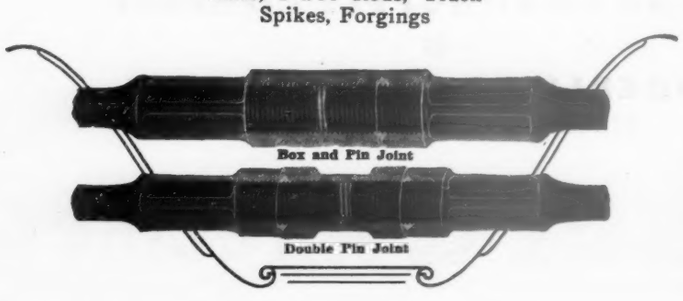
Kansas City, Mo.

Manufacturers of New Billet Reinforcing Bars, Rail Steel Reinforcing Bars, Blue Annealed Sheets, Merchant Steel Bars, Merchant Iron Bars, Bolt and Nut Products, Sucker Rods, Pull Rods, Track Spikes, Forgings



Name and address—	Barrels	Gross Value
Westervelt, Noble et al, Oklahoma City, Okla.	5,804.45	11,580.58
Westheimer & Daube, Ardmore, Okla.	1,267.43	2,286.13
Weisman, S., McKinney	79.34	172.19
West, Bessie M., Houston	3,204.00	4,806.00
Weaver Oil Corp., Eastland	479.20	1,069.54
West, J. F., Cisco	4,289.40	8,207.74
Weaver & Pois, Wichita Falls	19,772.08	38,555.55
Weiler, J. G., Cross Plains	13,709.23	29,090.21
Weed-Gayle Oil Co., Beaumont	2,065.55	3,098.30
Why Not Oil Co., Mexia	46,923.70	97,998.96
White Eagle Oil & Refining Co., Kansas City, Mo.	6,053.65	12,931.28
White, P. J., Wichita Falls	23,895.36	53,801.01
Whitehill, B. P., Tulsa, Okla.	6,319.25	13,265.47
Wheelock & Collins, Corsicana	75,348.94	146,930.30
Wherry & Rambo, Beaumont	771.04	1,156.57
Wherry & Langhman, Beaumont	204.63	306.93
Whaley Mineral & Realty Trust, Fort Worth	5,626.99	13,019.92
White, James H., Wichita Falls	4,628.15	9,422.25
Wichita Oil Co., Wichita Falls	939.09	4,057.03
Wickett, F. H., Shreveport, La.	3,364.96	3,940.72
Witcher & Michel, Wichita Falls	439.62	949.38
Witcher, W. C., Wichita Falls	3,740.63	9,010.49
Witherspoon Oil Co., San Antonio	142,701.99	269,832.10
Wilson Broach Co., Beaumont	16,035.07	24,052.60
Williams & Hoffmeir, Dallas	4,644.57	9,086.59
Wichita Petroleum Co., Tulsa, Okla.	5,716.92	11,651.00
Wilson King, et al, Wichita Falls	22.86	44.75
Williams, Burt, Wichita Falls	1,936.98	3,642.82
Wilson Drilling Co., Wichita Falls	20,616.37	44,558.19
Winnipeg Oil Co., Wichita Falls	42,163.81	82,856.17
Wise & Jackson, Sapulpa, Okla.	4,910.04	9,626.64
Wittmer Property, trustee, Pittsburgh, Pa.	11,287.58	18,884.85
Wilson Lee, Wichita Falls	497.50	958.18
Wichita Production Co., Wichita Falls	16,938.36	36,189.65
Wilcox, H. F., Tulsa, Okla.	6,164.74	6,164.74
Winefree Oil Co., The, Liberty	2,094.23	3,141.35
Wonder Oil Co., Inc., Houston	452.42	678.63
Woodburn Oil Corp., Dallas	31,116.24	64,952.48
Wolf, A. T., & Son, Wichita Falls	1,132.00	2,286.04
Woods-Bennett, Wichita Falls	6,482.78	9,713.43
Wyatt Oil Co., Sour Lake	963.84	1,649.77
Yount Lee Oil Co., Beaumont	139,215.66	204,672.11
Zadie Belle Oil Co., Mineral Wells	797.52	1,938.97
SUPPLEMENTAL		
Gutzler, W. F., Wichita Falls	229.54	423.76
Chico Pool Oil Co., Chico, Calif.	739.15	760.46
Shaffner-Wilson et al, Cross Plains	18,455.27	41,023.72
Southern Exploration Co., Houston	9,491.30	16,016.55
O'Neil, John, Wichita Falls	23,702.61	48,576.00
Booher Oil Corp., Waco	20.00	28.00
Muse & Robertson, Wichita Falls	14,071.83	29,677.71
The Mexican Oil Co., Laredo	784.11	784.11
South Vernon Oil Co., Vernon	3,727.39	7,483.64
Kemp & Underwood, Cameron	235.59	474.99
Cohen & Lebow Trust, Wichita Falls	2,847.16	5,954.14
Van Cleve Trust, Wichita Falls	1,803.33	1,803.33
Emlet, L. M., St. Louis, Mo.	816.00	1,346.65
Stedham & Thrasher, Electra	92.77	186.56
The Gordon Oil Co. of Texas, Logan, Ohio	118.72	231.50
Pace & Ward, Breckenridge	3,895.73	4,502.86
Raney, R. W., Breckenridge	862.52	1,646.94
Adamson Oil & Gas Co., Mexia	646.00	1,079.60
Sheldon, W. J., Electra	11,559.35	24,621.47
West, J. F., Cisco	1,162.35	2,251.24
Texota Petroleum Co., Electra	640.47	1,406.84
Grisham, Cora, lease, Wichita Falls	1,031.80	2,196.70
Stratton Ridge Oil Co., Freeport	96.00	144.00
Haynes, J. H., De Leon	1,190.24	2,128.37
Wilson, W. M., Corsicana	3,948.53	6,343.79
Lebow, M., & Simon, Tulsa, Okla.	3,715.20	6,664.32
New England Texas Oil & Refining Co., Easthampton, Mass.	66.96	87.72
Janellen Oil Co., Tulsa, Okla.	132.00	151.95
Weiler, J. S., Oil City, La.	127.69	248.99
Eagle Creek Oil Co., San Francisco, Calif.	938.00	1,893.64
Worth Oil Co., Wichita Falls	190.50	380.67
Lain Oil Co., San Antonio	1,800.78	2,591.40
Ohio-Somerset Oil Co., San Antonio	2,166.33	2,729.58
Corsicana Oil & Ref. Co., Corsicana	7,627.49	7,852.30
Unice, Charles J., Houston	1,802.00	2,343.00
East Batson Oil Co., Batson	12,791.72	19,187.58
Total	31,448,608.07	$55,596,114.27

DOMESTIC EXPORTS OF PETROLEUM AND PRODUCTS

	Month of January		7 Months Ended Jan.	
	1925	1926	1925	1926
Crude petroleum ..... Gals.	47,610,609	49,697,111	290,496,351	322,654,199
$	1,708,117	2,366,394	13,820,584	14,784,358
Total refined petroleum ..... Gals.	301,527,743	384,797,221	2,286,184,179	2,390,037,969
$	31,295,949	39,149,064	219,565,501	252,781,669
Gasoline, naphtha and other light products ..... Gals.	91,342,466	140,131,674	683,084,979	800,731,842
$	12,562,641	20,527,969	91,558,950	121,857,485
Illuminating oils ..... Gals.	73,592,610	77,501,850	551,189,383	547,967,543
$	7,015,569	7,354,382	51,586,054	51,190,610
Gas and fuel oils ..... Gals.	97,104,280	136,750,287	843,372,126	814,834,463
$	3,607,675	4,312,619	29,960,994	27,659,265
Lubricating oils ..... Gals.	39,380,710	29,835,092	206,139,168	222,243,893
$	8,086,000	6,794,355	46,148,671	51,544,348
Other refined petroleum products, Gals.	107,677	578,318	2,398,523	4,260,228
$	24,064	159,739	300,832	529,961
Paraffin wax ..... Lbs.	31,928,829	29,050,591	209,252,599	207,128,666
$	1,691,625	1,646,546	11,011,251	11,626,108

NEW ZEALAND STORAGE

Extensive storage is now being provided in Ruckland and Wellington for fuel oil for bunkering purposes, and for packing refined oils and other motor spirit for distribution throughout New Zealand. The two companies engaged in packing will be the British Imperial and the Vacuum. In the meantime, well sinking in Taranaki, on the southwest coast of the North Island and in the Poverty Bay district of the same island is being carried on by a Melbourne company, Taranaki Oil Fields, Ltd.

STEADY SUPPLY AND DEMAND

Apparently the oil industry is entering a new era, where a reasonably steady supply will be assured and an equally steady demand will be supplied by improved methods of operation, writes David M. Folsom of the General Petroleum Corp. in the Engineering & Mining Journal Press. Gasoline requirements can easily be reduced at least one-half through further improvements of the automobile engines, and cooperation between manufacturers and petroleum refiners has been established as a means to this end.

CENSUS ON SALES AND STOCKS

To determine the feasibility of establishing a biennial census of distribution to supplement the census of manufactures Secretary of Commerce Hoover and officials of the National Distribution Conference are considering the inclusion in the 1927 census of manufactures of one or two distribution schedules designed to bring forth data not only of the production of a given commodity, but information with respect to sales and stocks.

FRENCH MAY OPERATE GROSNY

A proposition for forming a French corporation to take and operate the concessions in Grosny oil fields, while advancing credits to the Soviet government for the purchase of manufactured articles is being discussed at a Franco-Russian conference in Paris.

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Drilling has hazards enough without taking chances on the stamina of the casing line.

The deeper the hole, the heavier the drill pipe and casing. And the greater your reason for having Yellow Strand Rotary Casing Line on the drum to handle it safely. Made of special imported steel wire and especially constructed for the hard work of rotary drilling. Yellow Strand hoists immense weights without a permanent stretch. Won't flatten on the drum. Resists bends and vibrations. Works down its cost to a very low figure.

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J-523

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Upside Down

NECO

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Neco Pumps represent a pumping principle so different that they were not, at first, greeted with open arms by the industry. Instead they created considerable skepticism. But that was so long ago we can talk and laugh about it now when at one time it was no laughing matter.

For those who do not know that Neco Pumps are radically different from other pumps we present this description of

The NECO Pump

It seats on top of old working barrels and when properly seated is ready for use. For new wells tubing seats are supplied.

The barrel is the moving part of the pump, instead of the plunger, so that on the up stroke of the Pump the oil is drawn through the plunger pipe into the valve, and is discharged into the tubing on the down stroke.

The lower valve is at the top of the plunger, not at the bottom as in all other pumps. *This is the Neco exclusive feature,* which combined with the position of the upper valve at the top of the barrel, gives the Neco Pump three big advantages over other types of pumps.

There isn't space left to tell you what these are but we'll be glad to send you the full explanation of the exclusive *Neco Advantages* that are derived from the *exclusive Neco construction.*

Northrup Equipment Co.

Parkersburg, W. Va.

Fort Worth, Tex.
F. J. Ackman
Representative

Nowata, Okla.
H. T. Torner
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Better Pumping Service

PETROLEUM ENGINEERING COURSE AT THE UNIVERSITY OF CALIFORNIA

By L. C. Uren and R. S. McIntyre*

The University of California offers instruction in organized courses on every subject that has any bearing on the petroleum industry. The College of Mining of the University offers a four-year curriculum in petroleum engineering to students wishing to specialize in the field of petroleum production. In addition to a full program of courses designed to give a broad foundation in the fundamental sciences and in general engineering subjects, a group of petroleum technology courses is offered, covering in detail the problems of petroleum exploration, oil field development, petroleum production methods, storage and transportation, petroleum cost-accounting, oil field mapping practice, oil and gas testing, economics of the petroleum industry, the natural gas and natural gasoline industries, valuation of oil properties and oil shale technology. This cirriculum has been offered continuously during the last 10 years, and is now well established. Many of the more successful younger men in the petroleum industry in the West are products of it. Upwards of 40 per cent of the students enrolled in the College of Mining at the present time, are following it.

The prescribed laboratory courses in the senior year of the undergraduate curriculum are designed to give each graduating student a thorough working knowledge of the equipment in each laboratory. With this back ground of fundamental knowledge and experience, the more important parts of which are included in a rigorous course extending through the first semester of the senior year, students engaged in thesis work find themselves in a position to make use of the varied apparatus available. Graduate students and advanced research workers, moreover, are particularly well fitted for continued work of a higher order, investigations which have often been attended by most gratifying results.

Special mention should be made of the oil shale laboratory, now in process of equipment. The retorts, condensing apparatus and refining equipment are of the latest approved design. Such facilities as electric refrigeration, provision for production of super-heated steam, gas and electrically heated, retorts, vacuum pumps, gas exhausters, etc., any one of which can be conveniently and quickly connected to any desired part or section of the equipment, give the best possible assurance of successful results in any phase of oil shale technology. The completion of this installation will provide opportunity for advanced work of a quantitative nature and extended scope, and the facilities provided should be especially attractive to research workers.

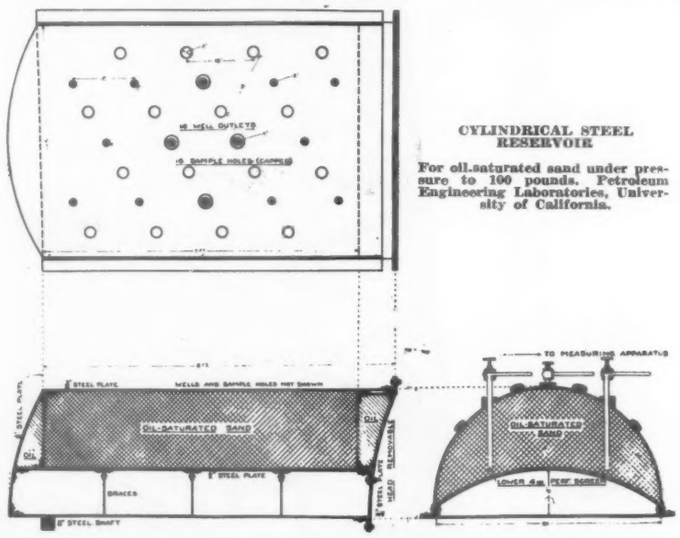
The Mining Building also houses the Pacific experiment station of the United States Bureau of Mines. Under a co-operative agreement, the equipment of the Bureau laboratories is also available if necessary, to supplement the resources of the University laboratories. The highly-trained personnel located at this station of the Bureau, is also available for consultation and advice.

Research Program

During the past 10 years, senior and graduate petroleum engineering students have conducted theses on many topics relating to the petroleum producing industry. For the immediate future, three lines of investigation are to be stressed:

1. Studies of the variables controlling the extraction of petroleum from reservoir sands.
2. Studies of the variables controlling the efficiency of extraction of oil from wells; and
3. Studies of the problems to be met in the mining of oil shale and in the retorting of oil from shale.

The first two of these major fields of investigation have already been explored in a preliminary way, and a number of papers prepared, some of which have been published. Several years of additional work will be necessary in each case, however, to conclude the investigations now contemplated. A brief resume of the investigations proposed and of the apparatus available, follows:



CYLINDRICAL STEEL RESERVOIR

For oil-saturated sand under pressure to 100 pounds. Petroleum Engineering Laboratories, University of California.

Efficiency of Extraction

In the recent report of the Committee of Eleven of the American Petroleum Institute, to the Federal Oil Conservation Board, it was estimated that there are, in known oil fields of the united states, some 26,000,000,000 bbls. of petroleum, unrecoverable by present methods of production, but partially recoverable by improved methods yet to be devised and applied. This at present unrecoverable reserve, is said to be approximately five times the known reserve recoverable by present-used methods from American fields. Those who are interested in the future petroleum reserve of the United States, see in this at-present unrecoverable reserve, the outstanding problems of the petroleum industry. The following program of research which the University of California proposes to conduct in its petroleum laboratories, is directed particularly toward a study of the fundamental variables underlying the proposed improved methods of oil recovery:

(a) A study of viscosity, capillarity and adhesion as forces opposing the drainage of oil from oil-saturated sands.

(b) A study of the solubility of natural gas in crude petroleum and of the

*Mining Building, University of California, Berkeley, Calif.

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Spang Weldless Drilling Jars are giving real satisfactory service in oil fields throughout the world. Wherever the ground formation offers unusual difficulty, Spang Weldless Jars are cutting down the time necessary to complete the hole.

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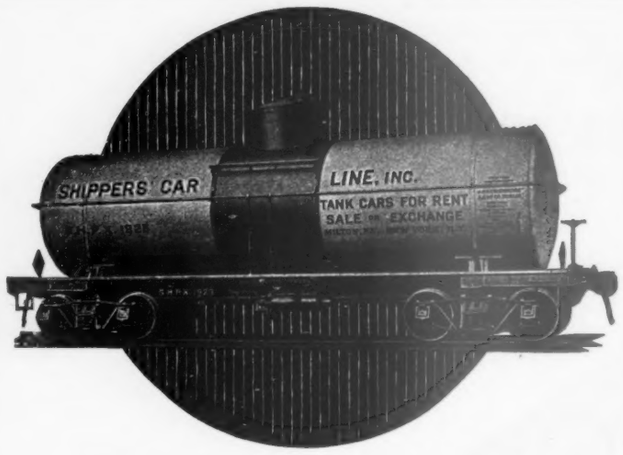

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effects of expanding gas in expelling oil from oil-saturated sands.

(c) A study of the effects of dissolved gas on the viscosity of petroleum.

(d) A study of the rate of diffusion of gases through petroleum from a gas-oil surface.

(e) A study of the effects of gravity in drainage of oil from oil-saturated sands.

(f) A study of the beneficial effects resulting from increased diameter of oil wells.

(g) A study of the effects of porosity and size of sand grains on the movement of oil through oil-saturated sands.

(h) A study of the effects of porosity and size of sand grains on the movement of gas through sands.

(i) A study of the effects of hydraulic forces in the expulsion of petroleum from oil-saturated sands.

(j) A study of the effects of tectonic forces in the expulsion of petroleum from oil-saturated sands.

(k) A study of the effects of well spacing on the ultimate percentage extraction of petroleum from sands.

(l) A study of the effects of delayed development on the ultimate percentage extraction of petroleum from sands.

(m) A study of various methods of oil fields development from the standpoint of gas conservation and the ultimate recoveries possible.

(n) A study of the effects of back-pressure on gas conservation and on ultimate percentage recovery.

(o) A study of the possibilities of restoring pressure to gas-drained oil in sands by absorption of gases under pressure.

(p) A study of the effects of water flooding on gas-drained oil in sands.

(q) A study of the effects of dissolved substances in water used in the water flooding process.

(r) A study of surface tension phenomena associated with oil-wet sands in contact with water.

(s) Study of the possibilities of artificially elevated ground temperature as a means of increasing the recovery of oil from sands.

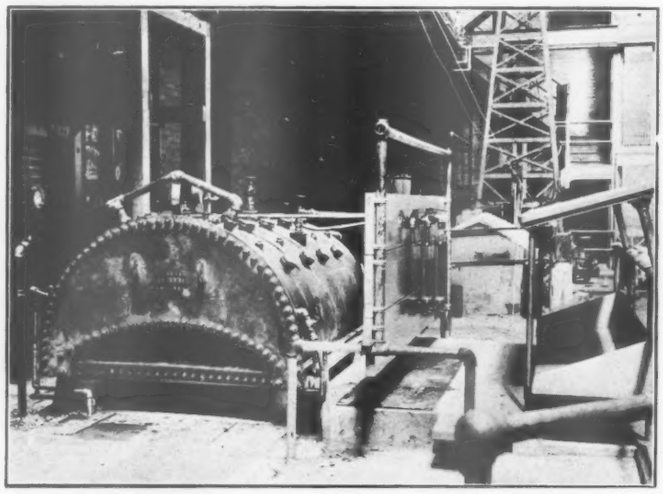
(t) A study of the drainage of oil from sands through mine openings.

Apparatus for Drainage Studies

Equipment is now available for laboratory studies of most of these problems. This includes a large glass-walled box with oil, water and air connections, and equipped with miniature wells operated under vacuum, which may be used for low-pressure work and miscellaneous pipe apparatus for small-scale pressure drainage work. Recently there has been constructed and installed, a large steel pressure tank, in which all of the conditions applying in actual field practice can be duplicated, and which is adapted to the conduct of many of the investigations enumerated.

The drainage apparatus, or "miniature oil field," is illustrated. One drawing gives details of the sand-filled pressure tank, and others show the tank and its related equipment.

The elevated rectangular tank is provided for oil storage and has a capacity of about 8 bbls. The cylindrical tank immediately below, is designed for high pressure and is used for gauging purposes and as an absorber for charging the oil with dissolved air or gas under pressure. A blow-off valve in the top of the tank permits of passing compressed air or gas through the oil by means of a perforated manifold of ¼-inch pipe in the bottom. Oil may be passed from the storage tank into the cylindrical gauge tank and, after saturating with gas under pressure, into the sand-filled pressure tank. The latter is semi-cylindrical in form, reinforced with a plate rolled to a greater radius than the semi-cylindrical shell to which it is welded and riveted. The space between this curved plate and the cylindrical shell, anticlinal in form, is filled with oil-saturated sand. The tank is 5 feet in diameter and 8 feet long, and is designed for a maximum pressure of 100 pounds per square inch. The sand is confined to the central 7½ feet of the tank by perforated iron plates covered with 20-mesh brass screen. These plates are braced against the dished ends of the tank, one being welded in place while the other is removable. The space available for sand is 45 cubic feet. Spaces between the ends of the tank and the perforated plates serve as oil reservoirs in distributing oil uniformly to the full cross-section of sand, and from either or both ends simultaneously. The dished end is removable after detaching the bolts which hold it to the cylindrical shell. An oil-proofed composition gasket prevents leakage.



Oil drainage apparatus, University of California.

Method of Operation

With the aid of a chain hoist attached to steel girders immediately above the apparatus, the pressure tank may be lifted on end, the 2-inch steel shaft and concrete pedestal serving to support the weight of the tank while in this position. While in the upright position, with the upper end removed, the tank may be filled with oil-saturated with oil as it is introduced, and thoroughly tamped by a man standing upright within the tank. By filling the container to a point slightly higher than the available space seems to permit and then forcing the gasketed head into place with the aid of its bolts, the sand can be compressed so that no voids will exist after lowering to the horizontal position. Oil, air, water and steam manifolds are provided at each end of the container and are readily connected by suitable unions when the tank is in the horizontal position.

The cylindrical shell of the tank is perforated by 30 threaded nipples securely welded to the shell, designed for supporting miniature "wells" made of 1-inch brass tubing and about 3 feet long, which penetrate the sand within the tank. The wells are perforated and screened

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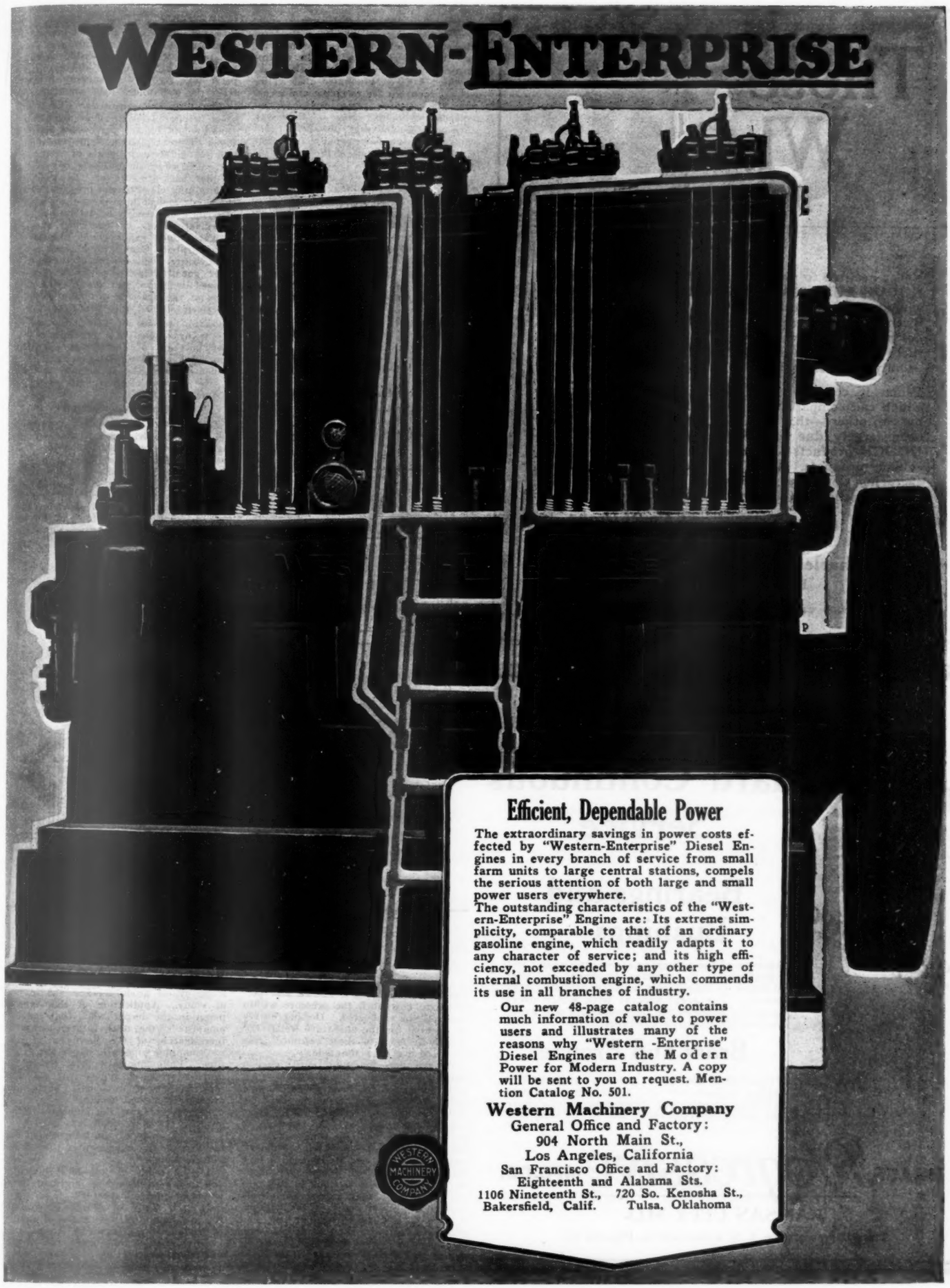

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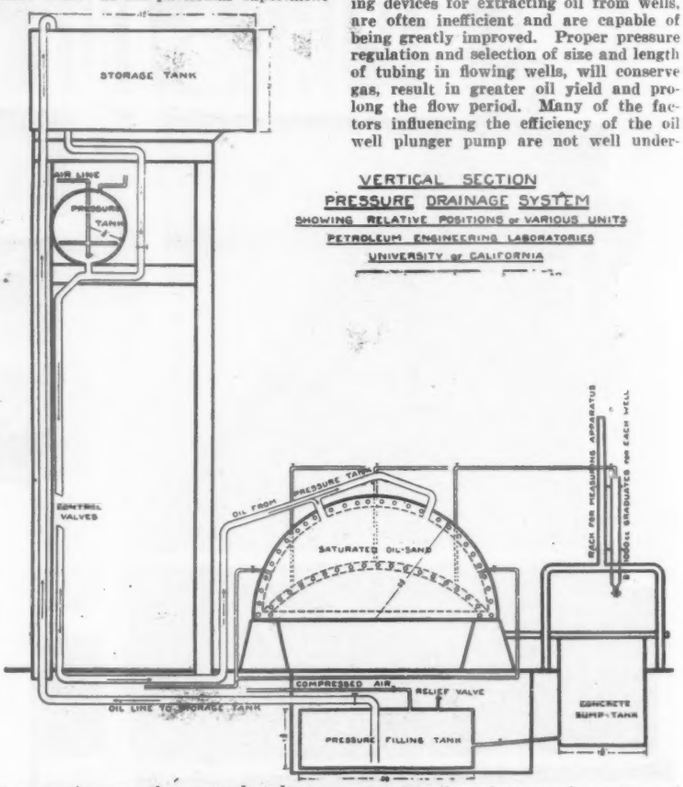
near their lower ends, and are equipped with angle valves at their upper ends, by means of which oil flow from the tank can be controlled. Pipes connecting with these valves lead the oil to the control board, situated at one side of the tank, on which 1,000-cc. graduated glass cylinders are mounted for receiving and measuring the oil flow. Each well has two receiving cylinders, and a three-way valve on the delivery tube permits of transferring the flow rapidly from one to another. Each cylinder drains through a valve in its lower end and in practice, one cylinder of a pair is drained, while the other is filling. Oil is permitted to drain from the cylinders, after measurement, into a concrete sump below the control board, whence it is occasionally drawn into a small pressure tank and pumped to the main storage tank with the aid of compressed air.

Connections are provided in the cylindrical shell of the sand-filled pressure tank, for 20 wells, some of which may be as large as 3 inches in diameter. Equidistant between the wells are capped nipples, also penetrating the shell, through which samples of the sand within the tank may be secured with a core sampler, to determine saturation at various points.

Conducting a Test

In conducting a test, gas-saturated oil is charged into the sand-filled tank and all valve connections closed. One or more wells—as the particular experiment



VERTICAL SECTION
PRESSURE DRAINAGE SYSTEM
SHOWING RELATIVE POSITIONS OF VARIOUS UNITS
PETROLEUM ENGINEERING LABORATORIES
UNIVERSITY OF CALIFORNIA

may require—are then opened and permitted to flow until the pressure within the tank is exhausted. Decline curves are secured for the miniature wells very similar in form to those obtained from operating wells in the field.

To stimulate pumping conditions, a motor-driven vacuum pump is connected with the lead lines from the wells and additional oil drawn from the sand by gravity drainage after the gas pressure has become exhausted. At one end of the tank is a 6-inch pipe connection leading directly to the sand-filled compartment. It is planned to connect a long horizontally disposed 6-inch pipe made up of short flanged sections to this outlet. This pipe may extend completely around the center court of the building if desired, a distance of 310 feet and will be filled with sand saturated with oil under pressure. This will, in effect, provide a horizontal column of sand containing oil under pressure, equivalent in length to a drainage element of a full-sized well in the field. It is thought that pressure measurements along this pipe, and—after exhaustion of pressure—determination of oil saturation at various points, will give a reliable basis for estimation of radius of drainage, and percentage recovery at varying distances from the well under field conditions.

The drainage apparatus would also seem to offer a means of securing quantitative data on the percentage recovery under different plans of field development and for different intervals of well spacing. The effect on ultimate recovery of holding back-pressure at the wells, of maintaining elevated gas pressure within the sands and of increasing the diameter of wells could readily be determined. The beneficial effects of restoring pressure to gas-drained sands could likewise be demonstrated. Gravitational drainage effects, water displacement of residual oil after gas-drainage, the effects of compressed-air drive and many other features of the drainage program could be effectively studied with this apparatus.

Certain phases of this program are now being studied in a preliminary way with the aid of the pressure-drainage tank, by five senior petroleum engineering students under the immediate guidance of two members of the faculty of the department.

Research on Variables

The methods in use for controlling wells and of operating mechanical pumping devices for extracting oil from wells, are often inefficient and are capable of being greatly improved. Proper pressure regulation and selection of size and length of tubing in flowing wells, will conserve gas, result in greater oil yield and prolong the flow period. Many of the factors influencing the efficiency of the oil well plunger pump are not well understood by oil producers and are in need of study. Application of this type of pump in the deeper wells that must be pumped in the near future, makes an investigation of the problems of deep well pumping especially important at this time. Following is a brief list of the proposed research topics that will indicate the type of problems to be included under this general heading:

(a) A study of the influence of fluid level on the flow of oil into a well.

(b) A study of the influence of submersion on the efficiency of the oil well plunger pump.

(c) A study of fluid-level indicators and their possible use in improving pump efficiency and oil recovery.

(d) A study of effects of occluded gas in pumping petroleum and of methods of excluding gas from the pump.

(e) A study of sucker rod stresses and elastic elongation of sucker rods in plunger pumping.

(f) A study of the advantages of

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long-stroke pumping devices in oil well service.

(g) A study of the influence of plunger speed on the efficiency of the oil well plunger pump.

(h) A study of the influence of valve and pump design on plunger pump efficiency.

(i) A study of the efficacy of various types of screens in excluding unconsolidated sands from wells.

(j) A study of the advantages of gravel-filled cavities about wells as a means of increasing oil yield and excluding unconsolidated sand.

(k) A study of the variables controlling the efficiency of the "gas lift" in flowing wells.

(l) A study of the influence of back-pressure on the rate of oil recovery from flowing wells.

Well Control and Pumping

An oil-pumping column 50 feet high, a shallow well containing a 2-inch plunger pump and walking beam mechanism for operating same, comprise the facilities so far available for investigative studies in the field. An elevated 25-bbl. oil storage tank and necessary valves and pressure regulators for pumping oil in closed circuit from the well to the tank and back to the well, are also provided as a part of the oil well pumping unit. Means are available for varying the length and speed of stroke of the pump and for accurately measuring the oil delivery of the pump, as well as for controlling its submergence and the hydrostatic head against which it must operate.

In its recent report to the Federal Oil Conservation Board, the Committee of Eleven of the American Petroleum Institute emphasized the importance of our oil shale resources as a future source of oil to supplement the petroleum supply. Much technical study must be given to shale technology problems before this prospective industry can be successfully commercialized, and it is proposed to attack such of these problems as the resources of the University permit. No definite program has as yet been formulated, except that particular emphasis will be given to the problems which relate to the mining and retorting of shale. It is probable that certain phases of this program will be conducted in cooperation with the United States Bureau of Mines, and will relate directly to the problems encountered in the development of the Government shale project on the Colorado Naval Reserve.

The University has, up to the present time, financed the development and equipment of the petroleum laboratories without outside assistance. Such research work as has thus far been attempted, has been entirely upon the initiative of members of the faculty and students, and without thought of direct remuneration. Such information as has resulted from it, has been published and made generally available to anyone interested. Suggestions concerning the conduct of the work however, are welcomed, particularly such as may result in better coordination with other research agencies, exchange of information and avoidance of duplication of effort.

CENTRAL WEST

(Continued from Page 50)

24 wells, 360 acres of lease and a production of about 32 bbls. per day. The consideration was on a basis of $1,500 per bbl. There are several good locations yet to drill. This company also made locations for No. 4 on the George DeVerna, No. 3 Louisa DeVerna, No. 8 A. H. Lindemier and No. 2 Grace Dauer farms, near Dowling, in Wood County, in the Lima Field, between Bowling Green and Toledo. This company has also let contracts for 20 wells, 2½ miles south of Mendon, in Mercer County, Ohio. Locations will soon be made for new wells on the Kansas and Oklahoma holdings of the company.

Owing to the road conditions in the Payne Field of Paulding County, Ohio, which extends over into Maumee Township, Allen County, Indiana, work has been at a standstill, as supplies cannot be hauled any great distance from the supply houses at Payne.

Only one completion is reported from the Indiana Field during the week and that was a duster drilled by Willis and others on the northeast corner of the E. S. Wilson farm, in the northeast quarter of Section 13, Logan Township, Pike County, in what is known as the Princeton district. The drill went to a total depth of 1,455 feet.

Reports from Decker Township, Knox County, in the western part of the State are that the test drilled on the Upham farm, in the Dark Bend neighborhood between the Wabash and White rivers reached a depth of 2,200 feet without any oil showings, which naturally means a duster in that region. The derrick is being moved to the Steckler farm, 2 miles up the Wabash River and about 1 mile down the river from the town of Little Rock, and about 1 mile from production on the Illinois side of the Wabash River. The well of the Russell Producing Co., on the Ballentine farm, a mile or so from the new location on the Steckler farm, is down several hundred feet. This well is in line with production on both the Indiana and Illinois sides of the Wabash River. The rig on the Payne & Fox lands west of the Claypool Hills will give Decker Township another good test for oil. There is still talk of three other locations being made, one on the Decker farm, another on the Greggs land and still another to be made near Little Rock ferry.

Illinois

Four completions were the result of the drill in the Illinois Field during the past several days, the best of which was the Adams Corner Oil Co.'s No. 6, 200 feet from the north line and 1,000 feet from the west line of the Mack Madden farm, in the northwest quarter of Section 7, Wabash Township, Wabash County, with 140 bbls. flush. Top of sand at 1,417 feet and drilled 39 feet in the sand. The Arkansas Fuel Oil Co.'s second test on the southeast corner of the E. Leighty farm, in the northeast quarter of Section 8, same township, proved a duster at 1,500 feet.

In Dennison Township, Lawrence County, the Ohio Oil Co.'s No. 8 well, 1,570 feet from the south line and 250 feet from the east line of the P. S. VanWey, in the northwest quarter of the southwest quarter, Section 31, pumped 4 bbls. at 1,507 feet.

In Sandoval Township, Marion County, the second test of Alspach & Fox, 450 feet from the south line and 100 feet from the east line of the Marion County Coal Co.'s tract, in the southeast quarter of Section 30, pumped 3 bbls. at 574 feet.

New Oil Sand

The oil well drilled on the Cisil heirs farm, Section 1, Wabash Township, Wabash County, by Foreman and others, where a new sand was found in the Allendale Field at an approximate depth of 1,550 feet, is showing up for a good producer from that formation, although it is coming through a cave-in. The drill penetrated the sand to a depth of only 4 feet. It is reasonable to expect that there is considerable more sand yet to drill into and that good production will result.

Discovery of this new sand means much to the Allendale area and will result in the drilling of more wells. A showing of this sand was found half a mile to the west, but this is the first time it has been discovered in the Allendale area, and will no doubt mean drilling deeper.

Clark, Oldendorf and others have taken over the J. O. Wood lease of 170 acres in Sections 19 and 30, Friendsville Township, Wabash County, and adjoining the Bass lease, where the big producer was reported last week. A derrick is now constructed on the Wood lease, an offset to the Bass farm well. The deal through which the Allendale men acquired the Wood lease involved thousands of dollars, but the exact price has not been given out.

Unknown parties have a test drilling on the Harrison Buchanan farm, Section 33, Wabash Township, Wabash County, and between the town of Patton and the Wabash River, approximately 5 miles southwest of the Stillwell Pool, near Allendale. Jose S. Young, Jr., and others are starting their No. 4 on the Kate

Keyser lease, in the Stillwell Pool, Section 7, same township.

Central Ohio

Three completions were made in the new Adams Township area of Guernsey County, in the Central Ohio Field, two being nice gas producers and the third, a light gasser. The Ohio Fuel Gas Co.'s test on the William Knight farm, Section 21, showed a gas volume better than 4,000,000 feet at a depth of 3,311 feet, the gas being found in the Niagara lime. Same company drilled in another in a test on the F. P. Mullins, Section 11, that showed around 1,250,000 feet, from the same formation at 3,386 feet. The third well is that of Thomas Matthews and others on the W. J. Hutton farm, Section 9, Center Township, same county, being a light gasser at a depth of 3,998 feet.

In Kilbuck Township, Holmes County, the Ohio Oil Co.'s second test, 660 feet from the south and west lines of the Albert W. Schnoover 40 acres, Lot 19, had a light showing of gas, but was abandoned.

EASTERN FIELDS

(Continued from Page 48)

pumper. The location is a little northeast of the company's test on the Coyner farm. On the same stream and in the same district, Keller, Taylor & Co. have started to drill on the C. & O. Railway property.

Starting Tests

In McClelland district, Doddridge County, Trainer Brothers & Ash have the rig completed for a test on the Daniel Bates farm on Broad Run. On Booths Creek, Booth Creek district, Taylor County, the Bridgeport Oil & Gas Co. is drilling a second test on the J. C. Johnson farm. In Murphy district, Ritchie County, Captain Davis and others have started to drill on the Asa W. Flesher farm. In Center district, Calhoun County, Godfrey L. Cabot is due in the Big Injun sand at a test on the Umstead-Scott farm. In Union district, Pleasants County, the Big Bend Oil Co. has made a location on the Felix and Anna Kerns farm. In Walker district, Wood County, V. B. Darby is fishing for tools on the J. S. Heck farm.

In Elk district, Harrison County, the Grasselli Chemical Co. has the rig completed for another test on the Robert A. Shuttleworth farm. In Clark district, Rapp & Nutter have made a location on the G. C. Nutter farm. In Grant district, Wetzel County, the Wiser Oil Co. has drilled its test on the John Mason farm to a depth of 2,361 feet and shut down for orders.

In Green Township, Wetzel County, the Hope Natural Gas Co. has a rig up on the Carl Balwanz farm. In Center district, the Hope Co. is making a road to a location on the Isaac Carney farm. In the same district, the same company is hauling rig timbers to a location on the Alonzo Jackson farm. In Clay district, the Johns Gas Co. is fishing for casing on the B. W. Peterson farm.

In Glennville district, Gilmer County, the Pittsburgh & West Virginia Gas Co. has started to drill a test on the E. D. Fulton farm and is rigging up on the J. L. Carson farm. In West Union district, Doddridge County, the Manufacturers Light & Heat Co. is fishing for a string of tools at 1,940 feet on the U. G. Hammond farm. The same company is drilling on the J. L. Carson farm. In Union district, Ritchie County, A. L. Britton is rigging up on the Lawson Hall farm. In Glenville district, Gilmer County, J. H. Taylor & Co. have started to drill on the Jefferson Campbell farm. In New Milton district, Doddridge County, the Hope Construction & Refining Co. is hauling tools to a location on the Kate McCauley farm.

Pennsylvania Gassers

Washington County is still talking about the new well near California, Pa., reported last week, one of the largest gassers ever drilled in that county. It is located on the Harry Hyatt farm, near Clover Hill, West Pike Run Township, and is owned by J. Harry King and L. Frank Baker. The gas was struck at a total depth of 2,700 feet, presumably the Gordon sand. The well was shut in and will be connected to the Peoples Natural Gas Co.'s line. The capacity of the well is estimated at between 20,000,000 and 30,000,000 feet a day. The bringing in of this large gasser has caused a great excitement in the town of California and adjacent towns and leases are being sought with great energy in the vicinity of the Hyatt farm.

In Gilmore Township, Greene County, J. I. Eddy and others have completed a test on the Frank Roberts farm. It is a gasser in the Gordon stray sand good for 800,000 feet at a depth of 3,265 feet. In Center Township, Frank Miller & Co.'s second test on the James Mitchell farm is a duster in the Gordon sand. In Jackson Township, the Pittsburgh Coal & Gas Co. has a duster in the salt sand at a test on the Riley Huffman farm. In Perry Township, the Highland Oil & Gas Co.'s No. 3 on the Floyd Headlee farm is dry and abandoned.

In Center Township, the Manufacturers Light & Heat Co.'s test on the William Hughes farm is a gasser in the Gordon sand. In the same township, the Greensboro Gas Co.'s test on the Glen Morris farm is a gasser in the same formation. In Springhill Township, the Peoples Natural Gas Co.'s old No. 1 on the J. W. McNichols farm, drilled deeper is a gasser in the Gordon sand.

QUICK SETTING CEMENT USED IN CALIFORNIA

(Continued from Page 80)

sack of cement is dissolved in the cement mixing water before the cement is mixed.

As noted above, there is one other reagent used to a limited extent. This is known as "Mojave Reagent," a liquid put up in 25 to 50-gallon containers. A quart of the liquid is used to each sack of cement.

Extent of the Use of Chemicals

All of the larger companies operating in California, with the exception of Union Oil Co. of California and North American Oil Consolidated, use one of these reagents in at least a portion of their cement jobs. Details of the practice of several of the largest operators in the state are as follows:

Associated Oil Co. uses Quick Hardening Chemical, Konset or calcium chloride, in cementing water strings and practically all other cement jobs. Where less than 100 sacks of cement are used it is all treated. Where more than 100 sacks are used, only the last 75 or 100 sacks are treated. The usual practice in water strings is to drill out the cement on the fourth or fifth day. The reagents are used in the following proportions:

Quick Hardening Chemical; 3.1 pounds per sack of cement.

Konset; one-half gallon per sack of cement.

Calcium chloride; 2.35 pounds per sack of cement.

California Petroleum Corp. of California uses Quick Hardening Chemical in cementing practically all water strings, about 2½ pounds of the reagent to the sack of cement. Where 300 or 400 sacks of cement are used in a cementing operation the last 100 or 150 sacks are treated with the reagent. In re-cement jobs the reagent may or may not be used depending on the depth of the water string and the pressure required to force out the cement. If the water string is long and a high pressure is required in a re-cement job the reagent is not used on account of the danger of cementing the tubing in the well. The usual practice is to drill out cement in a water string after standing about four days.

Chanslor-Canfield Midway Oil Co. uses the Huber & Wilson reagent. It is customary to treat all the cement where 40 to 100 sacks are used. When several hundred sacks are used only the last 100 to 150 casks are treated. The usual amount of the reagent used is five gallons to 40 sacks of cement. The practice is to drill out after cement has stood about 10 days.

General Petroleum Corp. cements practically all rotary drilled holes by the

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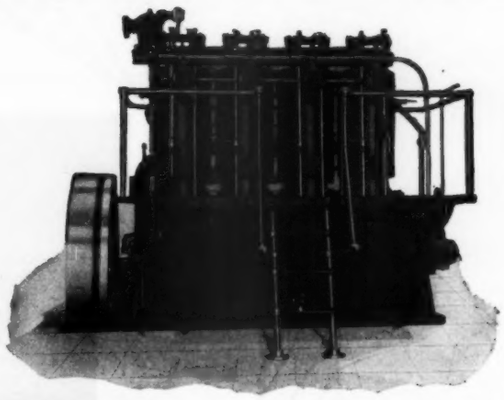

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Perkins method using Quick Hardening Chemical. All the cement is treated if 100 sacks or less are used. When 200 to 400 sacks are used it is customary to treat the last 100 sacks. When the dump bailer method is used to cement in cable-tool drilled holes it is not the regular practice to treat the cement, although in some cases Quick Hardening Chemical or Cal have been used. This same procedure is followed in plugging operations. Cement in rotary drilled holes is usually allowed to set from three to six days before it is drilled out. Some quick hardening chemical is used in about 80 per cent of all cementing jobs. Four pounds of the chemical is used per sack of cement.

Honolulu Consolidated Oil Co. uses no quick setting chemical in cementing the casing above the gas zone in the Midway Field. In cementing the water string above the oil zone about 300 sacks of cement are used, all treated with the Mojave Quick Setting Reagent. About one quart is used per sack of cement. The general practice is to drill out on the fourth day.

Pacific Oil Co. uses Konset in cementing all water strings. The amount of cement varies from 150 to 500 sacks. One quart of Konset is used for each sack if not more than 300 sacks is used. If more than 300 sacks of cement are to be used only the last 300 are treated, and cement is drilled out on the fifth day. One quart of Konset to each sack of cement is also used in all concrete and cement plugging operations.

Pan American Practice

The practice of Pan American Petroleum Co. and Petroleum Securities Co. in the use of quick setting reagents is as follows:

1. Quick Hardening Chemical is used in all cent jobs, when the Perkins Oil Well Cementing Co. does the cementing, on surface or conductor strings of casing. Konset is used when the Hamer Oil Well Cementing Co. does the cementing or on plugging jobs through drill pipe or tubing. Calcium chloride is used where plugs have been placed with the dump bailer or in canisters.

2. Quick Hardening Chemical is mixed with water, so that the specific gravity of the solution is 1.020 to 1.025. This requires about three pounds of chemical per sack of cement. Konset is mixed directly with the grout and the amount used depends entirely on the job; that is, whether pressure is to be applied, or upon the time allowed for the placing of the cement. The amount varies from one-third gallon to one gallon per sack of cement.

3. In cementing conductor and water strings the reagent is mixed with the last 100 sacks. In plugs, reagent is used with all of the cement.

4. The set cement is drilled out of the water strings on the fourth day.

Shell Co. of California uses "Quick Hardening Chemical" in all original cementing of strings of casing and in most recementing and plugging operations. The amount of the reagent used is determined by dissolving it in the mixing water until the specific gravity of the water has been raised to about 1.018. About three pounds of the chemical to one sack of cement gives the required strength. The cement is all treated if not more than 300 sacks are used. Where a larger amount of cement is used only the last 200 or 300 sacks are treated.

This company has also used, with success, the quick hardening cement, "Lumnite," on some recementing, combination string cementing and plugging jobs. No chemicals are, of course, used with this cement. The cement is usually drilled out of water strings on the fourth day.

Standard Oil Co. of California uses calcium chloride as an accelerator in cementing most of its water strings, the proportion being about 2½ pounds of the reagent per sack of cement. Where a large amount of cement (300 or 500 sacks) is used, only the last 100 sacks or less are mixed with the quick hardening chemical. The cement in water strings is usually drilled out in about seven days.

Union Oil Co. of California up to the present time uses no quick setting reagents. The reasons are given in a letter to the writer from F. F. Hill, manager of field operations, reading in part as follows:

"It is my opinion that any reagent that will start coagulation will not permit you to get the mix down the hole and up back of the pipe in the time that is usually required to do this kind of a job successfully, particularly at extreme depths, that are now being drilled.

"To use reagents you must add more water to the mix for the purpose of retarding the initial set, and naturally the more water you have in the mix the longer it is going to take to set and the more chance you have of failure.

"It has been our experience that when any good grade of cement is placed properly in the well and the pipe is landed in a suitable formation there is no difficulty in obtaining a shutoff.

"We have proven by experiments that if one enters a cemented well within 48 hours after cementing he would probably have the water shut off, if it was ever going to be shut off, and could go ahead drilling just as well as if he had waited 10 days or two weeks.

"The average oil well cement will take its initial set in from one to two hours' time. Within a few hours thereafter the cement will be hard enough to resist any movement of fluid; so unless one is depending on the compressive strength of cement to make a shutoff where only a few feet of wall surface is available there is little reason to wait for a greater hardness to take place.

"Any cement manufacturer will make a cement to take any kind of an initial set required so we can see no use of trying to improve on their work.

"If we get a good cement, land the casing in suitable formation and handle the cement properly in mixing and pumping back of the casing no trouble should be experienced in making a shutoff."

Success of Cementing Operations

A summary of 323 cementing operations in the fields of western Kern County in the year 1924 shows the following results:

Number of wells cemented with ordinary cement	91
Number of failures of cement jobs	12
Per cent failures	13.2
Number of wells cemented using a quick-setting cement	232
Number of failures of cement jobs	10
Per cent failures	4.3

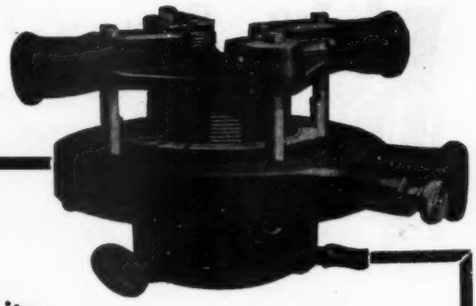
When the quick setting reagents first came into use, numerous instances were recorded where tubing was cemented in wells or a large amount of cement was left in the casing at the conclusion of the cementing operation. In a few cases even, the cement set in the dump bailer where this method of placing the cement was used. However, with a better knowledge of the action of the quick setting reagent and after additional experience in the handling of the cementing operations these difficulties have been largely overcome. Probably the speed of carrying out the cementing operation has been the largest factor in securing successful cementing operations where the reagents are used. A cementing job which a few years ago required two or three hours is now completed in from one to one and one-half hours. Mechanical cement mixers capable of mixing cement at a rate as high as 10 sacks per minute, and the rapid displacement of the cement in the casing by mud fluid, are the two important factors in securing this shortening in time required to place the cement.

The value of a process is known by the results obtained, so that the successful use of the quick hardening reagents and their adoption by the great majority of California operators indicate that quick setting reagents have come to stay as a factor in oil well cementing operations.

CANADIAN FIELDS

(Continued from Page 48)

operations in this area were originally undertaken in the expectation that the Sweetgrass Arch structure of the Kevin-Sunburst Field extended north some distance into Alberta, and that oil would be encountered at comparatively shallow depths. The drilling some years ago in-



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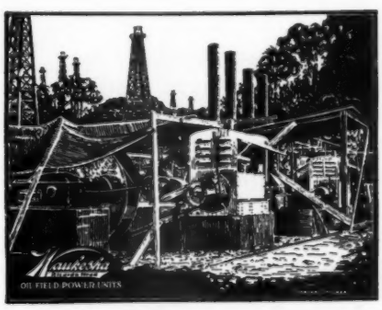

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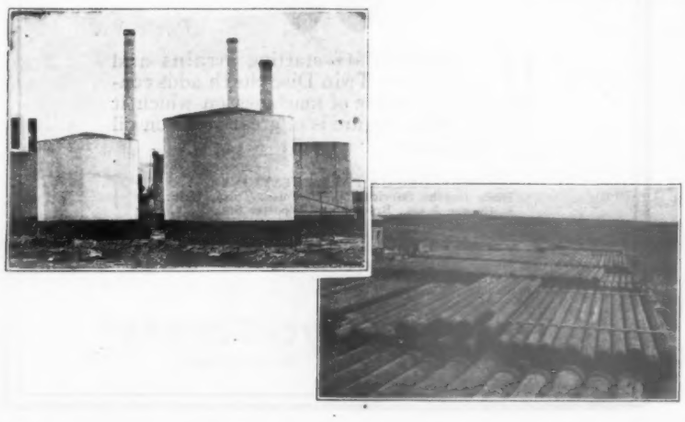
Binks Spray Equipment Company

3110 Carroll Avenue **Chicago, Ill.**



dicated a considerable dip of the structure toward the north, but was hardly carried deep enough to afford conclusive results.

The Maple Leaf Refining Co. of Lethbridge is reported to have contracted to sell its entire fuel oil output to the Great Northern Railway. The capacity of the Maple Leaf plant, which has been running approximately 2,500 bbls. a day, will, it is understood, be doubled, the improvements now contemplated including a cracking process to be installed by the Universal Products Co.

It is understood that the Arctic Refinery at North Lethbridge, Alberta, controlled by the International Refinery Co. of Sunburst, will be operated to capacity this spring, utilizing 500 bbls. of "tops" daily from the Sunburst plant; and that a proposal to enlarge the plant is now under consideration.

Irma-Wainwright Field

In the Irma-Wainwright Field, east central Alberta, British Petroleums, Ltd., No. 2, Section 30-46-6w4, which has been shut in for some time, gushed for several days when opened up to supply gas to the Edmonton-Wainwright Oils, Ltd., drilling plant. The Edmonton-Wainwright Oils, Ltd., test, offsetting British Petroleums, Ltd. 3-B producer, spudded in last week, and is now reported drilling at 300 feet with a heavy duty rotary outfit. Frank Stevens, head driller for British Petroleums, Ltd., is in charge of the drilling operations at this location. Edmonton-Wainwright Oils, Ltd., has been overhauling the drilling machinery of the Irma Oil Development Co., Section 28-45-9w4, and is reported to be resuming drilling this week. The test is down several hundred feet. Dave Credille is in charge. The Interior Oil Co. test on Section 36-44-7w4, formerly the Wainwright Oil Producers Syndicate, which shut down during the cold weather at 1,250 feet, will resume drilling early this month. The 10-inch casing has been set, and the drillers will resume with an 8¼-inch hole. Wainwright Dome Oil Co. is reported to have located its No. 1 test on legal subdivision 5, Section 31-45-6w4, and expects to have rig on the ground early in March and to complete one well some time in April. The company plans to drill No. 2 well this season. Maple Leaf Oil Co. is arranging to finance the drilling of No. 2 well, Section 24-45-8w4. No. 1, drilled on the same location a few years ago, got a considerable gas production with traces of oil, but was not carried deep enough to give conclusive results in regard to oil. Anglo-Alberta Oil Co., Section 18-45-6w4, expects to spud in its No. 1 test early in May. Fabyan Petroleums, Ltd., financed by British Columbia capital, will drill a test this season near Fabyan; while Mid-Canada Oils, Ltd., which has secured backing in eastern Canada, will drill two tests this season in the Wainwright portion of the field. British-Wainwright Oil Co., which has a rig up on Section 22-45-5w4, has sold its drilling equipment and leases to outside interests which will complete the test. The National Exploration Co. has been incorporated under Dominion charter to drill in the Wainwright area. At Edmonton, the Alberta Refineries, Ltd., plant, which was shut down for a short time, has resumed operations. It was found necessary to build an agitator to treat the oils from the Wainwright and Kevin-Sunburst Fields, in order to deodorize the gasoline. British Petroleums, Ltd., is making tank car shipments to the plant from its wells in the Wainwright Field. The company is building two 1,000-bbl. storage tanks for crude and fuel oils, while two other 5,000-bbl. tanks are in transit to the refinery.

It is reported that considerable leasing for oil has been done in the district west of Retlaw, in southern Alberta.

In the Ontario Fields, the Medina Natural Gas Co. is reported to have located a test for gas on the Dunlop farm, Beach Lane, about 7 miles east of Vienna, in Elgin County. In Kent County, Kiser Brothers have the contract for completing the E. P. Rowe deep test north of Thamesville for the Colchester Oil & Gas Co. This test, which is down about 1,650 feet, will be drilled through the Trenton limestone to the granite. In Dover Township, Kent County, Union Natural Gas Co.'s No. 20 deep test is being started close to the present producers.

VENEZUELA FIELDS

(Continued from Page 42)

Omnium Oil Development Co., Ltd., Maracaibo.

Colombia Petroleum Co. (Doherty interest) Maracaibo.

Standard Oil Co. of Venezuela (Standard Oil of New Jersey) Maracaibo.

Atlantic Petroleum Co. (Atlantic Refining Co.) Maracaibo.

The Texas Co. of Venezuela, Maracaibo.

The Venezuela Gulf Oil Co., Maracaibo.

North Venezuela Petroleum Co., Ltd., Puerto-Cabello.

Panapec Petroleum Co. (Buckley interest) Caracas.

The British Controlled Oil Fields, Ltd., has 5 wells drilling at El Mene, and as it has the field well defined will soon start three deep tests for a deeper sand. The test at La Celba is drilling at 1,410 feet.

Richmond Petroleum Co. is spudding in on its test at Rio Seco.

The Colon Development Co., Ltd., is making two tests at Tarra and one at Oro; these tests are near the Colombian border, in a very rugged and isolated place. It is expected to open up a field in that district in 1926.

Venezuela Oil Concessions, Ltd., has 12 rotaries drilling at La Rosa, on the shore of Lake Maracaibo, and 10 strings of cable tools running at La Concepcion, three at La Paz, and a test down 900 feet at El Mene-Lagunillas.

Lago Petroleum Corp. has 10 rotaries running in the La Rosa district, all located in the lake, in water ranging in depth from 4 to 12 feet.

The Venezuela Gulf Concessions' tests at La Rosa and Rodriquez are under water making operations a bit difficult. This company has four rotaries operating at La Rosa and five at Rodriquez, where it opened up a new field with a 15,000-bbl. well at a depth of 1,449 feet on January 13. It has cemented the 12½-inch in its El Menito test at 1,140 feet, and is drilling two other wildcats.

New England Oil Corp. has a small concession around one of the liveliest oil seeps in Venezuela, in the Riapcuji district; and is now rigging up on its fourth test. Its No. 2 is swabbing enough for fuel from a depth of 1,150 feet.

Standard of Venezuela has a total of 12 drilling wells on wildcat locations, equally divided between North Venezuela or Maracaibo Basin and Eastern Venezuela. Most of them are past the 2,500-foot depth. In Eastern Venezuela it passed up an oil sand, good for 100 bbls. of heavy oil, and if nothing better is found lower, will plug back. At Dahajuro it has a 12,000,000-foot gasser at 2,626 feet. This is very promising looking territory, and something may be expected of it later.

The North Venezuela Petroleum Co. has two tests drilling inland from Puerto Cabello. There is a very large seepage in this district, and these two wells make seven tests drilled near the seeps. They will undoubtedly uncover the pool, if not discouraged.

The Omnium Oil Development Co., Ltd. is using a diamond drill in putting down several geological tests in likely territory.

The Oronoco Co. has a small portable outfit making geological tests.

The Texas Co. has completed a series of geological tests on its concessions, and, with the remaining companies, is employing the watchful, waiting policy.

The native population has taken advantage of the oil boom, and rent and foodstuffs have more than doubled in the past few months. The laborers are undernourished and weak, also overpaid for their services; and no doubt labor will become a problem inside the next year.

A stir was created in local oil circles when it was reported that Standard Oil

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of Venezuela had taken over for development the British Controlled Oil Fields, Ltd., including the El Mene Field, with its 6,000-bbl. daily production of light oil, and the Buchivacea district which is controlled by a new company, known as the Anglo-Venezuela Oil Trust, Ltd.

The Standard's No. 1 Monte Clara, in the Eastern Buchivacea district, came in last week at 370 feet, producing 12 bbls. daily of 18 gravity oil. This well is about 10 miles east of the No. 1 La Danta, which blew in as a big gasser at 2,626 feet, three weeks ago. While neither well is considered profitable it is the general opinion that a field will be developed between these two fields. The Standard is making progress on 5 of its 10 drilling wells.

Venezuela Gulf Oil Co.'s daily production has varied very little, but a substantial increase can be expected with the bringing in of Nos. 4 and 7 Rodriquez. No. 2 Rodriquez has settled down to 2,500 bbls. through a choke on 4-inch flow line, which is over a mile long.

Richmond Petroleum Co. of Venezuela has completed its camp, and spudded in No. 1 El Mamen.

Caribbean Petroleum Co. in Mene Grande Field, have nine strings of rotaries and cable tools drilling. The formation here, as in all North Venezuela is of such a soft character that the wells are quickly drilled and with so many wells drilling it is almost impossible to keep track of the depth.

The following table shows the amount of oil produced in the different fields, and the total production of Venezuela up to January 1, 1926, according to Government statistics:

Field	1925 Prod	Prior to 1925	Total
La Rosa	10,025,811	3,278,287	13,304,098
El Mene	2,629,739	1,043,014	3,672,753
Mene Grande	5,923,175	10,973,647	16,896,822
La Paz and La Concepcion	443,489	.....	443,489
Total	19,022,214	15,294,948	34,317,162

In the La Rosa Field, the production was divided; the Lago Petroleum Corp. produced 4,359,824 bbls. Venezuela Oil Concessions Co. (Dutch Shell) 3,830,064 bbls.; Venezuela Gulf Oil Co., 1,835,923 bbls. The British Controlled Oil Fields, Ltd. produced all of the El Mene production, the Caribbean Co. all of Mene Grande, and the Venezuela Oil Concessions, the La Paz and La Concepcion Fields.

Lago Petroleum Co. increased its production from 18,000 bbls. to 23,600 bbls. by bringing in two new wells in the La Rosa Field. No. 43 was swabbed in for 1,500 bbls. from a depth of 2,750 feet, while No. 36-A is a small producer making 500 bbls. at a depth of 2,760 feet.

Omnium Oil Development Co., Ltd. is drilling at 1,309 feet on its test 18 miles south of Maracaibo. This test has created a great deal of interest, as it is located in what is considered likely territory.

Venezuela Sun Co. Ltd. on No. 1 Boscan, has reached a depth of 3,097 feet; No. 2 Boscan has encountered very hard formation at 700 feet. This well is being drilled with cable tools in 12½-inch hole. It has reached a depth of 3,185 feet on No. 1 Onio, and is lengthening the height of the 64-foot derrick to accommodate more 3-inch drill pipe.

California Petroleum Exploration Co. has recovered 1,760 feet of 4-inch drill pipe from No. 1 Neogil, and expects to have the hole cleaned in a few days.

Standard Oil of Venezuela's material department is busy taking inventory of stock on the newly acquired British Controlled Oil Fields property, and all operators are progressing uninterruptedly.

Venezuela Oil Concessions Co. Ltd. brought in its No. 45 La Rosa for 3,600 bbls. of 20 gravity pipe line oil, which increases its production to 36,000 bbls.; No. 42 was completed for 7,200 bbls., and No. 43 for 10,000 bbls. A drop may be expected in its La Rosa production shortly, as it has decided to curtail drilling operations from 10 strings to four. It will spud in a wildcat on the west edge of the city of Maracaibo. Its La Paz production has climbed to 2,400 bbls., while the production of its La Concepcion Field has been raised to 3,600 bbls.

CALIFORNIA FIELDS

(Continued from Page 46)

at 2,925 feet, together with No. 2, some distance away, is of paramount importance so far as the Union is concerned, because considerable acreage will be opened up if either comes into commercial production.

E. L. Blanton did not succeed in finishing his No. 1 Gualdine at Coyote as a commercial producer but work will continue and a further effort made to secure a satisfactory shut off. The Union has one driller in this area, No. 57 Graham & Loftus, drilling ahead at 4,950 feet, and, although a core taken at this depth shows a brown shale and shell streaked with a fairly good looking oil sand, the well is not yet assured of commercial production. No. 20 on Kraemer Lease No. 2 of the Standard at Richfield continues to look encouraging and the outlook at 4,605 feet is quite favorable. No. 21 on this lease is drilling ahead at 1,205 feet. The General Petroleum has finished rigs for No. 7 Thompson and No. 6 Stern but neither has been spudded in. The Marland at Seal Beach has not yet started to make any new hole in No. 1 Bixby, which is scheduled to be carried down in search of a deeper producing horizon, but it is thought the hole will be put in shape within 10 days. No. 4 Bryant of the Shell, between its No. 1 Bryant and No. 1 Bixby of the Marland, is drilling ahead in hard sand at 3,104 feet and making good footage. The Associated has temporarily suspended work on its structure holes on the Hellman property but will probably resume drilling soon.

Midway-Sunset

Drilling operations in the San Joaquin Valley have been increasing for several months, notwithstanding that crude prices are generally quite low, and this new work is particularly noticeable in the Midway-Sunset area. There were no completions listed during the past week, although there were several additional new locations staked. The Balboa Oil Co. at Midway is hauling in material for four new wells to be designated as Nos. 27, 41, 54 and 55, all in Section 24-31-23. The General Petroleum, it is reported, will drill these holes on a 50-50 basis with the Balboa, it being stipulated the former will have the privilege of buying the oil. The Calivada Oil Co. is making preparations to bring in No. 3, and it will probably be on production within a week or 10 days. There have been no further developments which might throw any additional light on the extent of the Obispo zone, although it might be said work to date has had a tendency to cool off the optimism of many.

The Standard's No. 2 Raas in Section 10-11-23, has taken on a decided improvement during the past few weeks and operators are beginning to think the company has an excellent chance of securing commercial production. The well has shown plenty of life and considerable gas pressure but it is thought it will take some additional hole before it will be in a position to make a bid for production. George F. Getty's No. 3 Leonhardt, out on the Kern River front, in Section 14-28-27, started off pumping 130 bbls. daily of comparatively clean 13.6 gravity oil from 2,233 feet. Getty has another driller, No. 2 Tegler, in Section 22-28-27, and the indications are quite favorable for an early completion.

Ventura

Operators are watching the Associated's No. 20 Lloyd and No. 101, on the same lease in the Ventura Avenue Field very closely because of the excellent showings each has exhibited to date. The former will apparently establish a new deep production record for this field as it is going ahead at 5,750 feet in a tough shale streaked with a heavily saturated oil sand. This well has for some time showed an unusually heavy gas pressure which forced the company to take extra precautions to prevent a blowout and the outlook for a big well is exceptionally bright. No. 101 Lloyd is of particular interest because of the position of this outpost on the structure and the showings which it has developed

to date. This well will be given a test shortly from 5,165 feet and it is due in some time early next week unless some unforeseen trouble develops.

The Associated has several other promising wells on the Lloyd lease, one in particular, No. 26, giving indications of resulting in early production. The company's No. 3 Hartman is standing cemented at 3,460 feet but should be drilled out tomorrow. The General Petroleum is going along at a rather conservative rate but is, nevertheless, getting its share of production. The company's present operations cover No. 10 Notten at 2,638 feet and No. 3-A Barnard at 3,045 feet. The Shell is stepping right along with its work on the Edison, Gosnell and Taylor properties but, with the exception of No. 18 Gosnell at 4,650 feet, all its wells are above the 4,000-foot level and it will probably be several weeks before they are ready for production tests. The company spudded in one new hole during the week, No. 8-A Gosnell, and reports it as being down 615 feet.

The Bolsa Chica cemented a string of 11-inch in its No. 1 Hartman at 3,570 feet, the bottom of the hole being 3,600 feet. The Petroleum Securities is rotating ahead in No. 1 Willett at 3,296 feet and, although the rig for No. 1 Orton had not been finished at the close of the week, preliminary work should be completed shortly. The Temescal Petroleum, a Doheny company, is hauling in material for No. 3 B. & L. at Piru and rig construction should get under way within a few days.

Hoyt S. Gale is making preparations to drill another wildcat, No. 2 Beardsley, in the Camarillo district, and the rig will be located about a half mile west of the first hole abandoned around 5,398 feet. This area certainly warrants a thorough test, as conditions are favorable for the accumulation of oil in commercial quantity and it is hoped Gale will carry this new hole down for a conclusive test. The Chanslor-Canfield Midway Oil Co. is again making new hole in No. 1 Hobson, its Ventura County wildcat, the present depth being 3,570 feet. No. 1 Sexton, of the Milham Exploration. Co. at 3,002 feet, and No. 1 Berlywood of the Shell at 1,900 feet are both drilling ahead uneventfully. The Standard has not yet concluded drilling on its second structure hole, No. 1 Haydock, near Montalvo, as work has been going ahead slowly.

Southern California Wildcats

The Marland's No. 1 Wickham in the vicinity of Piru and about 5 miles south of the Temescal Petroleum's B. & L. property, is looking unusually promising for a wildcat, although it is thought the structure if productive will be limited in area and yield small wells which should average around 150 bbls. daily. No. 1 Wickham was carried down to 2,605 feet, at which depth a water shut off was secured. Drilling was resumed and the hole is down 2,689 feet. Between 2,605 and the bottom the oil sand alternated with a shale and shell and it will be quite interesting to watch the next 100 feet. It looks as though the Marland has picked up something similar to the Temescal's holdings. The Milham Exploration Co.'s No. 2 Conroy in the Newhall-Saugus area, Section 11-4-16, is also reported to have had oil and gas showings but an investigation showed them to be of only a minor character. The outlook, however, is quite encouraging.

H. A. Bardeen has taken over the Hermosa Syndicate's old abandoned wildcat in the vicinity of Hermosa Beach and has already started reconstructing the rig. This hole started flowing a small amount of oil a few weeks ago. No. 1 Connelly of the Marland at Hyde Park in Section 26-2-14, just recovered from a fishing job and will probably resume drilling within a day or so. The Union has passed the 3,100-foot level in No. 1 McNally at La Mirada and, although no showings have been noted to date, the company is still hopeful of developing production. The Petroleum Securities is drilling ahead at 2,425 feet in a sandy shale at Palos Verdes but this hole is not expected to be of interest until after the 3,000-foot level has been passed. The Russell Petroleum's No. 1 Joughin, an interesting wildcat not far from Chatsworth, is still standing cemented at 4,171 feet but will probably be drilled out within a few days.

Northern California Wildcats

The Milham Exploration Co. has reached a depth of 1,162 feet in its Buttonwillow wildcat but in view of past drilling records, it is really just getting under way, as production is not anticipated above the 4,000-foot level. The Main Oil Co. at Wasco and the Chanslor-Canfield Midway Oil Co. at Delano are still working with their respective tests but neither looks encouraging. The Union Oil Co. has spudded in its No. 1 M. & L. in Section 16-28-20, northwest of the old Belridge Field, but this well will really only be a structure hole and the first of several more to be put down preliminary to locating a deep test if conditions warrant. The Shell is rigging up rotary equipment in the Mount Poso Creek area, Section 9-27-28, and it is possible a spud will be made within 10 days. This location is about 2 miles southeast of the John Porter well, recently abandoned as unproductive. The Standard's test, northwest of Kettleman Hills, is drilling ahead in a sandy brown shale at 5,340 feet. The General Petroleum has officially abandoned No. 1 Oschener in the Kettleman Hills area, Section 28-22-18, as a dry hole at 6,435 feet. The well had several promising indications from time to time and, although the depth at which the hole was abandoned seems rather deep, it will not be regarded as a conclusive test, as the company recognized the fact when starting work that the area called for deep drilling. It is unknown whether the General Petroleum will make another attempt before relinquishing this property but it is quite likely some further work will be undertaken. The Marland, by the way, is about 300 feet off bottom in its wildcat in this area and will probably be in a position to drill ahead some time within 30 days. Both H. F. Becker and the Channel Oil & Development Co. are held up with their tests in Santa Barbara County. The former's well is shut down at 1,750 feet, while the latter's test is being delayed at 4,800 feet. The only two tests in San Luis Obispo County, which operators are following at present, are the Barneyberg Oil Co.'s hole at 3,525 feet and the General Petroleum's No. 1 Potter, which logged a slight gas showing at 898 feet. The Harriman-Jones Oil Co. is getting ready to start another test in Monterey County and this hole, together with the Pyramid's wildcat, down 1,858 feet, will bear watching during the next few months. The Associated is rigging up a diamond core outfit in the Huron quadrangle and will probably begin drilling its first structure hole during the coming week.

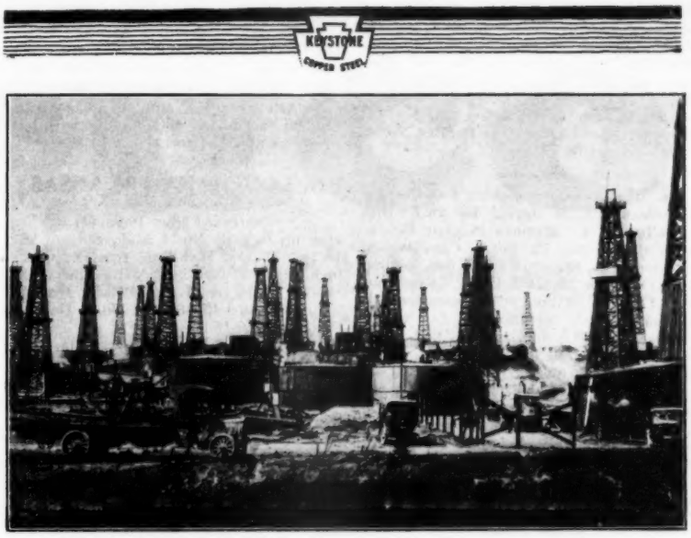
MEXICAN FIELDS

(Continued from Page 44)

No. 30 Limon is credited with sale water in its No. 30 Limon, a Federal zone well in the southern part of the extensive Limon tract, at over 3,000 feet.

At Panuco

In the Panuco Field drilling operations as the week ended are epitomized as follows: La Corona Petroleum Co.'s No. 105 Piedras is in lime at 1,940 feet; No. 112 is in a similar formation with the hole full of oil at 2,070 feet; No. 113 cemented 8-inch casing in gray lime at 1,340 feet, and No. 13-A La Polla is rigging. Credito Petrolero's No. 1 Piedras cemented 8-inch casing in gray shale at 1,350 feet; No. 5-A is in gray lime at 1,930 feet; No. 6 is in lime at 1,490 feet and No. 8 is in shale at 150 feet. In the West Maguabes sector, its No. 29, Lot 31, is in shale at 295 feet. East Coast Oil Co.'s No. 53 La Milpa is in shale and shells at 1,300 feet and it has a derrick up for No. 57. Empire Gas & Fuel Co.'s No. 11, Lot 16 W. Maguabes, is in shale at 950 feet. Ita Mex Oil Co.'s No. 16 Tampuche is in gray lime at 1,885 feet. Mexican Sinclair Petroleum Corp.'s Nos. 15 and 18 Tananturo are in gray lime at 1,260 and 1,236 feet respectively,



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and No. 19 is spudding. Its No. 11, Lot 1 Camolote, is drilling at 210 feet in shale; No. 8 Gutierrez is 845 feet in shale and No. 10 is rigging. Cia. Pet. Maritima (Federal zone), No. 4-F Piedras is in gray lime at 2,210 feet. Transcontinental Petroleum Co.'s No. 8 Piedras is in gray lime at 1,420 feet and No. 11 there is a derrick. In the Peralta No. 4 is in shale at 605 feet.

Cacalilao

In the Cacalilao sector, La Corona Petroleum Co. is rigging for two more tests in Lot 4. Mexican Sinclair Petroleum Corp.'s No. 72, Lot 3, Cacalilao is in hard gray shale at 1,153 feet. Rich Mex Oil Co.'s No. 105, Lot 1, is drilling at 1,775 feet in lime. Transcontinental Petroleum Co.'s operations in Lot 4 follow: No. 167 is in lime at 2,060 feet; Nos. 200 and 240 are in lime at 1,875 and 2,275 feet respectively; No. 249 is in gray shale at 450 feet; No. 250 is in lime at 2,110 feet; No. 252 is in lime at 2,245 feet; No. 259 cemented 8-inch casing in the San Felipe at 1,205 feet; Nos. 267 and 269 are each in the San Felipe at 1,200 feet; and in the Paciencia, just north of Cacalilao, No. 58 is in shale at 1,160 feet.

South Fields

The south fields lag, there being but little work there apart from the regular conservative run of operations conducted by Huasteca Petroleum Co. and Mexican Eagle Oil Co., Huasteca's operations as the week ends follow: Its No. 71 Cerro Azul is in basalt at 234 feet; No. 72 is in brown shale at 1,500 feet. In Tierra Blanca its No. 58 is in gray shale at 2,155 feet; No. 60 cemented 8-inch casing at 2,086 feet in gray lime and it has derricks up for three more tests. Up in the Chinampa district, Huasteca's No. 16 Casiano is in a hard black sandy rock at 50 feet. Mexican Eagle Oil Co.'s No. 26 Alazan is rigging up standard tools at 2,725 feet, where the rotary drill stopped in a lime; No. 26 Cerro Veijo has the Tamasopa lime at 2,095 feet and is rigging standard tools. Down in the neighborhood of Furbero its No. 3 Mecapepec is in hard sandy rock at 2,338 feet. International Petroleum Co.'s No. 7 Agua Nacida is in hard sandy shale at 4,515 feet. Penn Mex Fuel Co.'s No. 3 La Pita is in a sandy rock at 3,600 feet. Agwi Companies (Atlantic Gulf Oil Corp.), is preparing to drill another test in Laguna de Tamiahua.

Northern Miscellany

In the miscellaneous northern group, Ebano is the center of attraction. In this extensive sector, Mexican Petroleum Co.'s operations follow: No. 42 Chijol is in gray lime at 1,862 feet with the hole full of oil; No. 1 Silva cemtented 8-inch casing in gray lime at 1,315 feet; No. 4, same, is in gray shale with shells at 1,535 feet and No. 5 is rigging. In La Dicha, its No. 65 is in brown lime at 2,210 feet; No. 76 is in gray lime at 1,760 feet. In the Midway its No. 8 in is hard gray lime at 2,350 feet. The National Lines' operations in the Chapacao right-of-way through Ebano consists of No. 27 there testing out cemented 8-inch casing at 1,174 feet, with No. 32 at 425 feet in gray shale, while two derricks are up.

In the Corcovado sector, La Corona Petroleum Co.'s No. 20, Lot 6, is in gray lime at 1,690 feet, and No. 22 cemented 8-inch casing in shells at 1,090 feet. Mexican Gulf Oil Co.'s No. 34 Chapacao (Corcovado) is in gray lime at 1,656 feet, while No. 35 is in gray shale at 1,122 feet.

In the Topila sector, Credito Petrolero's No. 2 La Mula has shut down at 2,645 feet in brown lime, with shows. Cia. Pet. Financiera's No. 2, Lot 14 Pac. de Agua, cemented 8-inch casing in gray lime shell at 1,438 feet. Mexican Fuel Co.'s No. 21 Santa Fe is in gray lime at 2,400 feet. Williamson and others' No. 9, Lot 5 Pac. de Aguacate, is in hard gray lime at 1,855 feet.

In Los Esteros, American International Fuel Co.'s No. 21 is in white lime at 3,105 feet and its No. 25 is in the same formation at 2,606 feet.

In the Marland field, Cia. Pet. Franco Espanola's No. 44 Limon cemented 8-inch casing in gray lime at 1,470 feet, and it is preparing to drill three more tests.

Up in San Luis Potosi, Mexican Eagle Oil Co., Ltd., No. 1 San Pedro, an old hole which is being deepened, has shut down for fuel at 4,812 feet in lime.

In Altamira, Rich Mex Oil Co.'s No. 1, Lot 20, is in the San Felipe with oil showings at 2,135 feet.

N. LOUISIANA-ARKANSAS

(Continued from Page 44)

ging up to drill No. 1 Volk, Section 26-10-1e. W. H. Hawkins, trustee, set 6-inch at 1,530 feet in No. 1 Sadie York, Section 25-10-1e. A. E. Hudson, trustee, is drilling at 1,450 feet in No. 1 Urania, Section 12-10-1e.

Hunt and others set 10-inch at 100 feet in No. 2 Tullos, Section 26-10-1e, and are coring at 1,495 feet; rigging up to drill No. 3 Tullos, same section; set 6-inch at 1,497 feet in No. 1 State, same section, and derrick up for No. 2 State, same section.

H. M. Jones set 10-inch at 99 feet in No. 4 Russell, Section 25-10-1e. Keisker, trustee, set 10-inch at 100 feet, down 400 feet in No. 1 Russell, Section 25-10-1e. Kimbrough & Willis, set 10-inch at 102 feet in No. 1 fee, Section 20-10-1e.

Louisiana Oil Refining Co. is waiting on standard rig at 1,527 feet in No. 1 Bass, Section 25-10-1e, and at 1,558 feet in No. 2 Bass, same section.

In Section 29-10-1e, the Louisiana Oil & Refining Co. is waiting on standard rig at 1,573 feet in No. 7-B Tremont, set 6-inch at 1,540 feet in No. 9-B Tremont; at 1,692 feet in No. 10-B Tremont; testing 4 feet of sand at 1,563 feet in No. 11-B Tremont; temporarily abandoned in salt water at 1,560 feet, No. 12-B Tremont; rigging up to drill No. 15-B and 27-B Tremont; set 10-inch at 100 feet in No. 28-B Tremont; rigging up No. 29-B Tremont; set 10-inch at 103 feet in No. 30-B Tremont, Section 25-10-10.

Love and others are waiting on standard rig to pump at 1,523 feet in No. 1 Zimmerman, Section 25-10-1e.

Natural Gas & Petroleum Co. set 6-inch at 1,482 feet in No. 1 H. Tullos, Section 26-10-1e, and set 10-inch at 108 feet in T. Russell, same section.

Standard Drilling Co. has derrick up for No. 2 Clinton, Section 26-10-1e, and set 10-inch at 100 feet, down 800 feet in No. 1 Bass, same section; has derrick up for No. 3 Urania, Section 16-10-2e.

Ohio Oil Co. set 10-inch at 102 feet in No. 3 Urania, Section 24-10-1e. Sherman and others are rigging up to drill No. 1 Russell, Section 25-10-1e. Roberts and others set 10-inch at 100 feet, down 900 feet in No. 1 Russell, same section.

Standard Oil Co. set 10-inch at 95 feet in No. 4 Urania Lumber Co., Section 19-10-1e.

O. F. Whittaker is rigging up No. 2 King, Section 36-10-1e, and Williams Drilling Co. set 6-inch at 1,523 feet in No. 1 Hebert, Section 26-10-1e, and 10-inch at 1,074 feet, 6-inch at 1,532 feet in No. 2 Hebert, same section.

Ze'gen and others are waiting orders at 1,460 feet in No. 2 Urania, Section 18-10-2e, and set 10-inch at 101 feet in No. 3 Urania, same section.

Huey P. Long, Jr., set 10-inch at 100 feet, down 900 feet in No. 1 Bass, Section 25-10-1e.

Cotton Valley District

Alabama Petroleum Co. set 10-inch casing at 402 feet in Robbins No. B-1, section 21-21-10.

Fortuna Oil Co. is waiting on casing at 4,281 feet in No. 1 Bible, Section 8-20-9, drilling at 300 feet in No. 1 J. Tiner, Section 21-21-10.

Gulf Refining Co. set 6-inch at 2,520 feet in No. 1 S. P. D. Coyle, Section 21-21-10.

Ohio Oil Co. set 6-inch at 2,558 feet in No. 36 Bodcau, Section 21-21-10; has shut down at 4,626 feet in No. 1 W. Cox, Section 23-21-10, and changing drill stem in sticky shale; waiting on standard rig at 2,571 feet in No. 22 Gray, Section 26-21-10; set 10-inch at 307 feet, drilling at 1,500 feet in No. 6 B. Sidney, Section 16-21-10.

Smitherman & McDonald set 10-inch at 600 feet in No. 1 Oakley, Section 24-23-10.

ARKANSAS WILDCATS

Ashley County

Rhodes & Kirker are drilling in sandy shale at 2,040 feet in No. 1 Bledsoe, Section 20-15-7, 12 miles north of Hamburg.

Calhoun County

Southern Crude Oil Producing Co. has shut down in red shale at 2,713 feet in No. 1 Freeman-Smith Lumber Co., Section 19-14-15, 6 miles northwest of Smackover production and 9 miles southeast of Camden.

Columbia County

Hude & Aarnes are drilling in lime at 3,130 feet in No. 2 Brown, Section 13-15-20, in the Stephens Field and Magnolia Petroleum Co. set 10-inch at 108 feet, drilling at 400 feet in No. 8 Rhinehart, Section 13-15-20, another well in the Stephens Field.

Hempstead County

Burton and others are drilling at 1,870 feet in No. 1 Garland, Section 23-10-25, 4 miles north of Washington.

Lafayette County

Arkansas Fuel Oil Co. is drilling at 2,670 feet in No. 2 Red River Land Co., Section 18-19-24, 2 miles east of Bradley.

Miller County

J. L. Bradgen is drilling at 2,660 feet in No. 1 Wiseman, Section 36-15-27, 11 miles east of Texarkana.

Lenze and others set 10-inch at 80 feet in second hole for No. 1 Dale, Section 25-15-26, 10 miles northwest of Lewisville.

Nevada County

Bemis and others set 10-inch at 40 feet, 6-inch at 1,144 feet in No. 3 J. D. Ellis, Section 2-14-21, 10 miles north and a little west of the Stephens Field, Humble Oil & Refining Co. has derrick up for No. 2 Ellis, same section; set 10-inch at 41 feet in No. 2 Graves, same section.

Keystone Oil Co. is waiting on standard rig in 400 feet of fluid, 8 feet of sand at 1,192 feet in No. 7 Waters, Section 10-14-21, and set 10-inch at 100 feet, down 910 feet in No. 8 Waters, same section, 19 miles directly north of Magnol'a.

One mile north of the Waters well the Magnolia Petroleum Co. is lubricating at 4,475 feet in No. 1 B. F. Johnson, Section 3-15-21.

Smitherman & McDonald set 10-inch at 40 feet in No. 3 C. W. Waters, Section 2-14-21, 10 miles north of Magnolia.

Zing and others set 8-inch at 1,242 feet and are testing 6 feet of sand at 1,248 feet in No. 4 Womack, Section 10-14-21, 20 m'les north of Magnolia.

LOUISIANA WILDCATS

Bossier Parish

Benton Syndicate is drilling in sand at 1,150 feet in No. 1 Bulkley, Section 9-20-13, 3 miles north of Benton.

Simms Oil Co. is arranging to pull casing and abandon at 1,206 feet No. 1 C. D. Sandidge, Section 9-18-11, 2 miles north of Haughton.

Square Deal O.l Co. pulled 6-inch and reset at 1,227 feet in No. 1 Hale & Rumbough, Section 17-18-11, 1 mile northwest of Haughton.

Woodley & Collins cored 977 to 986 feet, cap rock 986 to 988 feet, show oil sand, cemented 8-inch at 986 to 988 feet in No. 1 Kilburn, Section 18-19-13, 5 miles south of Benton.

Bellevue Field

Humble Oil & Refining Co. pulled 6-inch, which was set at 320 feet and cemented 6-inch at 370 feet, drilling in white shale at 375 feet in No. 29 Bliss & Wetherbee, Section 23-19-11.

Claiborne Parish

Standard Oil Co. pumped 2 bbls. on test at 1,867 feet in No. 4 Shaw, Section 30-21-7, 4 miles west of Homer.

In the Sugar Creek district, Triangle Drilling Co. cored red and blue shale at 3,624 feet, drilling in lime at 3,732 feet in No. 1 Keen, Section 7-19-5.

DeSoto Parish

Dixie Oil Co. estimated 1,000,000 feet of gas at 3,355 feet, running in 6-inch casing in No. 1 Jenkins, Section 9-12-11, 1 mile northeast of the Bayou Pierre Lake.

Eight miles west of Coushatta, the Fortuna Oil Co. set 6-inch at 2,585 feet in No. 1 Bond, Section 27-12-11.

Gulf Refining Co. cemented bottom of hole to cut off salt water at 2,560 feet in Willis Williams No. C-10, Section 31-13-11, and is pulling casing to abandon in salt water at 6,090 feet Willis Williams No. C-18, same section, both in Naborton Field.

The Texas Co. set 10-inch at 42 feet in Wemple No. A-10, Section 2-12-12, 2 miles north of Addington.

J. C. Walton set 6-inch at 2,510 feet in No. 1 Hark, Section 36-12-11, 1 mile south of the Gusher Bend Field.

Grant Parish

Dowling & McCurray set 4-inch at 1,611 feet, drilled plug, blowed down 1,300 feet, no show, in No. 1 Holmes, Section 20-9-1e, 4 miles south of Rochell and half way between Georgetown and Selma.

Lincoln Parish

The Texas Co. set 10-inch at 490 feet, drilling at 550 feet in No. 1 Tremont, Section 27-18-1w, 10 miles east of Ruston.

Morehouse Parish

R. C. Boisseau and others are rebuilding derrick at 2,510 feet in No. 1 Sullivan, Section 11-21-7e, about 12 miles east and a little north of Dubach.

Natural Gas & Petroleum Co. set 6-inch at 981 feet, drilling at 1,385 feet in No. 17 Crossett, Section 12-21-4, 6 miles northwest of Bastrop.

Natchitoches Parish

Amerada Petroleum Corp. is arranging to abandon No. 1 Wafer, in red shale at 3,402 feet, in Section 3-11-8, 6 miles north and a little west of Campti.

Ouachita Parish

J. M. Huber set 8-inch at 900 feet, drilling at 1,262 feet in No. 7 fee, Section 30-19-5e; Sam D. Hunter set 6-inch at 2,170 feet in No. 1 D'Arbone, Section 32-19-3e; Jorden and others set 12-inch at 127 feet in No. 1 Roberts Miller, Section 12-18-4e, Ladell and others set 6-inch at 882 feet in No. 33 fee, Section 36-19-4e; Palmer Corp. set 6-inch at 2,168 feet in No. 1 fee, Section 24-19-4e; and Pioneer Oil & Gas Co. set 10-inch at 160 feet, drilling at 1,200 feet in No. 1 Filihol, Section 11-18-4, all in the Monroe gas field and a little north and east of Monroe.

United Carbon Co. set 6-inch at 2,140 feet in No. 1 Archie, Section 24-20-4e, 4 miles north of the Monroe gas field.

Sabine Parish

L. M. Emlet is drilling in lime at 3,137 feet in No. 5 Bowman-Hicks Lumber Co., Section 9-7-12, 10 miles east and a little north of Many, rigging up to drill No. 7 Bowman-Hicks Lumber Co., Section 14-7-14; Toro Petroleum Co. is setting 4-inch at 1,529 feet in No. 1 Pickering Lumber Co., Section 24-4-12, formerly reported abandoned in salt water at 1,500 feet December, 1925.

Union Parish

Arkansas Fuel O.l Co. is fishing at 1,825 feet in No. 1 Reeves-James, Section 14-20-1e, 5 miles southeast of Farmerville.

Four miles south of Farmerville, Empire Gas & Fuel Co. shut down for fuel at 2,771 feet in No. 1 Dubach, Section 17-20-1e.

Winn Parish

Standard Oil Co. of Louisiana has rig up and has made location for Nos. 1 and 2 E. E. Albrittan, Section 27-10-1e.

Caddo Parish, Pine Island District

Arkansas Natural Gas Co. is drilling at 300 feet in No. 1 C. W. Lane, Section 13-21-15; Dixie Oil Co. estimated 3,000,000 feet of gas, arranging to deepen at 3,592 feet in No. B-2 Noel, Section 13-21-15; drilling at 1,703 feet in No. 71 Robertshaw, Section 14-21-15; Double I Oil Co. set 10-inch at 40 feet, drilling at 900 feet in No. 5 Wadkins, Section 27-21-15; Fortuna Oil Co. shot chalk rock at 1,550 feet, blowed dry, now swabbing at 1,597 feet in No. 24 Raines, Section 22-21-15; drilling in lime at 2,620 feet in No. 1 Spell, Section 29-21-15; drilling in lime at 2,265 feet in No. 1 Wiley Bradford, Section 24-21-15; Gulf Refining Co. has derrick up for No. 1 J. M. Byrd, Section 3-19-14, and No. W-4 Caddo L. B., Section 16-20-16; down 1,700 feet in No. 9 J. P. Hearndon, Section 15-21-15; drilling at 3,390 feet in

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Murruco

ECONOMICAL SERVICE REACHED ONLY THROUGH QUALITY BUYING

A Belt That Won't Bootleg, Stretch or Slip—

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Packings—Rings—Bands
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PRODUCER'S SUPPLY AND TOOL COMPANY
Fort Worth, Texas

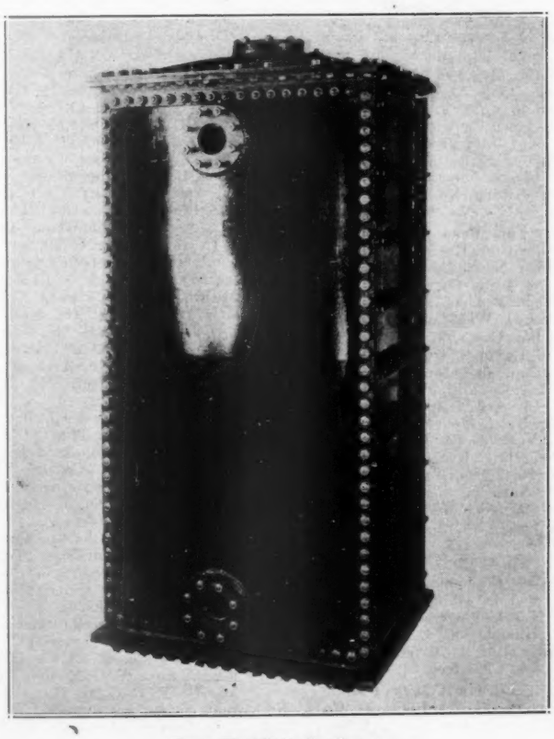
FEDERAL SUPPLY & MACHINE COMPANY
Winfield, Kansas

—and—

MURRAY RUBBER COMPANY
Factories, Trenton, New Jersey

Kansas City Branch, 712 Delaware St., Kansas City, Mo.
Ketchum Bros., 1236 E. 8th St., Los Angeles, Calif.
Empire Supply Co., 440 Bryant St., San Francisco, Calif.
Chicago Branch, 501 W. Randolph St., Chicago, Ill.

The Greatest Heat Transference



Type H-1000-S Condenser

SOUTHWESTERN CONDENSERS

by reason of their scientific design, materials used, and construction, give the greatest heat transference from the cooling medium.

The tubes of admiralty metal, correct in size and length, set at right angles to the vapor flow, develop maximum efficiency. The cover plates, properly baffled, placed over the two-tube sheet faces, direct the flow of the cooling medium with full turbulence, counter current with the vapor and at a velocity sufficient to keep the tubes clean over long periods.

Compactness, accessibility of parts, strength and durability with absence of useless weight or fittings and differential expansion and packing annoyances eliminated, are notable points of Southwestern Condensers. Made in 10 sizes. The name "Southwestern" is a guarantee of superiority of each inherent detail.

SOUTHWESTERN ENGINEERING CORP.
1221 HOLLINGSWORTH BLDG.
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THE pumping engine, the compressor or the valve that looks, from all external appearances, like a million dollars may conceal a thirty cent interior.

The point we are trying to make is that the vital equipment parts may not have the sturdy stamina, the robust constitution or the load-bearing ability to stand up under the strains and stresses of brutal oil field work.

Drop forged parts have that load-bearing ability—*in a proved and positive degree.* They inherit it from the tough, give-and-take strength of the steel from which they are made.

So • • • • it's a wise production man who sternly insists on drop forged parts on all his replacement equipment. And who specifically demands drop forgings—particularly Champion Drop Forgings—on all new equipment.

THE CHAMPION MACHINE & FORGING CO.
CLEVELAND, OHIO

A forging is something more than a piece of hammered steel

CHAMPION DROP FORGINGS

No. 17 Lane, Section 13-21-15; drilling in blue shale at 625 feet in No. E-1 Muslow, Section 35-21-15; drilling gas rock at 1,077 feet in No. 12 Elbert Tyson, Section 14-21-15; Lewis Oil Corp., rigging up to drill No. 6 Vespy, Section 15-21-15; O'Dell & Lawson, waiting on standard rig at 1,638 feet in No. 4 Red Bayou, Section 15-21-15; set 10-inch at 83 feet in No. 5 Red Bayou, same section; Ohio Oil Co. tested salt water show oil at 3,943 feet in No. 1 J. B. Ardis, Section 1-21-15; drilling at 3,765 feet in No. 18 E. K. Smith, Section 12-21-15; Schoder and others, waiting on standard rig at 1,692 feet in No. 2 Dreyfus Lane, Section 15-21-15; The Texas Co. is running milling tube at 2,295 feet in No. 42 Caddo Mineral Land Co., Section 23-21-15.

Hosston District

H. J. Bussa set 10-inch at 80 feet, driling at 750 feet in No. 7 Allen, Section 23-22-15; Dixie Oil Co. set 6-inch at 1,040 feet in No. 4 Donavan, Section 21-22-15; drilling at 3,822 feet in No. 1 Jolly, Section 27-22-15.

Oil City District

Gulf Refining Co. is trying to pull 4-inch at 2,580 feet in No. 222 Ferry Lake, Section 16-20-16; drilling in shale at 2,810 feet in No. 225 Ferry Lake, Section 21-20-16; drilling in gumbo at 1,970 feet in No. 227 Ferry Lake, Section 16-20-16; set 10-inch at 150 feet, drilling in sandy shale at 560 feet in No. 228 Ferry Lake, Section 22-20-16; The Texas Co. is drilling 4-inch plug at 3,737 feet in No. B-1 Federal Jeems Bayou, Section 15-20-16; set 10-inch at 52 feet, drilling at 1,914 feet in No. 11 Russell, Section 3-20-16.

In the Caddo Field Standard Oil Co. is settling liner at 2,368 feet in No. 11 J. J. Hart, Section 34-21-16, and The Texas Co. is rigging up to drill No. 52 S. P. Harrell, Section 12-21-16.

In the Elm Grove district, Woodley Petroleum Co. set 6-inch at 1,845 feet in No. 1 Knight, Section 35-16-12.

Manie Drilling Co. is drilling at 1,400 feet in No. 1 Cunningham, Section 15-17-14, 3 miles southwest of Shreveport.

The Texas Co. is waiting on bit and drill collar at 1,078 feet in No. 23½ Caddo Mineral Land Co., Section 23-21-15.

GULF COAST FIELDS

(Continued from Page 33)

is deepening at 4,355 feet. No. 5 Hirsch is at 1,435 feet and No. 21 Beamont is deepening at 3,000 feet. Humble Oil & Refining Co.'s No. 67 Smith is rigging. No. 68 Smith is around 775 feet. Gulf Coast-Crown Central Oil joint No. 6 Galliard is at 3,100 feet. Sun Oil Co.'s No. 18 Bartlett-Smith is at 785 feet.

At Pierce Junction, Gulf Production Co. is drilling No. 18 Taylor and Rio Bravo Oil Co. No. 2-P Settegast.

Fort Bend County Pools

In the Blue Ridge Pool, Gulf Production Co.'s No. 6 Luscher is at 2,975 feet and The Texas Co.'s No. 10 Robinson is around 3,235 feet. Abercrombie and others' No. 1 West-Schenck is a location.

At Big Creek, Gulf Production Co.'s No. 26 Davis is around 3,610 feet with a location made for No. 28 Davis. No. 10 Wheat is drilling around 770 feet.

At Orchard Dome, the Gulf Co. is rigging No. 6 Moore.

At Nash Dome on the Fort Bend-Brazoria line, Rycade Petroleum Corp.'s No. 6 Nash is drilling around 354 feet. No. 7 Nash is rigging. No. 4 Wisdom is at 2,535 feet. No. 2 Flessner is around 1,985 feet. No. 4 J. Meier is around 2,500 feet.

Brazoria County Pools

At West Columbia, The Texas Co.'s No. 22 Arnold is fishing. Hyde Production Co.'s No. 1 Masterson is around 2,800 feet. Humble Oil & Refining Co.'s No. 2 Smith is at 3,670 feet and No. 1 Le-Rebus at 3,765 feet.

Liberty County Pools

Humble oil & Refining Co.'s No. 2 Welder in the South Liberty Pool extension on the west side of the Trinity River, is a location. Same company has a derrick up for No. 1-B Duessen.

Harrison Oil Co.'s No. 1 Schliner on the southwest side of the old Dayton Pool, is drilling around 3,000 feet.

In the Hull Pool, Republic Production-Houston Oil Co. has become active on the Dolbear 800 acres on the east flank of the dome. Their joint No. 66 Dolbear is working over. No. 118 is drilling around 2,235 feet. Derricks are up for Nos. 119 and 120. No. 121 Dolbear is drilling around 355 feet with a derrick going up for No. 122. Humble Oil & Refining Co. has also increased its operations in this pool. No. 1 Hooks-Spell on the south side is at 3,390 feet. A location has been made for No. 5 Merchant on the northwest flank and Nos. 3 Sterling and 6-B Abel on the west side are rigging to commence drilling. The Texas Co.'s No. 1 Hannah is around 2,135 feet. A derrick is standing for No. 9 Merchant with No. 10 drilling below 3,000 feet. Empire Gas & Fuel Co.'s No. 18 Barngrover is around 2,655 feet. The Empire Co. closed its Houston office and Coastal operations are now directed from Wichita Falls and Bartlesville. Mecom Oil Co.'s No. 8 Taylor is drilling around 3,200 feet. Gulf Production Co.'s No. 16 J. C. Baldwin on the southwest, is drilling around 1,175 feet. No. 12 Scarborough on the north side of the dome is at 3,675 feet. On the southeast side, No. 5 Thomas is deepening at 3,875 feet. No. 13 Phoenix is also deepening at 2,615 feet. No. 64 Phoenix is at 3,375 feet. No. 65 is around 3,080 feet and No. 66 is below 2,345 feet.

In the Spindletop Pool, Yount-Lee Oil Co.'s No. 4 McFadden the deep test on the southeast side, is drilling around 2,675 feet. No. 3 McFadden, the deep sand producer, is showing an increasing percentage of salt water. Gulf Production Co.'s No. 212 Gladys is deepening. Lillian Oil Co.'s No. 3 Terrell is at 775 feet. Wilson & Broach's No. 13 Fort Worth is around 675 feet.

Late Well in Orange Pool

At Orange Brownie-Babbittee Oil Co.'s No. 4 McLean is drilling at 3,200 feet. Continental Oil Co.'s No. 4 Chesson is drilling at 4,715 feet; No. 7 sanded up at 3,060 feet; No. 10 is cleaning out at 4,160 feet. Edgerly Petroleum Co.'s No. 3 Carbello will work over. Humble Oil & Refining Co.'s No. 25 Chesson "A" is drilling at 4,850 feet; No. 26 Chesson "B" shut down at 2,450 feet. Kishi Development Co.'s No. 7 McGuire is drilling at 4,790 feet; Peer Oil Corp.'s No. 1 Mecom at 3,435 feet; Orange Petroleum Co.'s No. 1 M. Williams at 4,000 feet; No. 11 Chesson at 4,500 feet. Supreme Oil Co.'s No. 4 Jackson, at 4,652 feet; Gulf Production Co.'s No. 21 Lee Hager fee at 2,600 feet; No. 22 at 1,100 feet; No. 3 Chesson "A" at 3,200 feet; Rycade Oil Corp.'s No. 6 State "B" at 3,132 feet; No. 11, 4,650 feet.

Gulf Production Co. completed No. 8-B Kishi-Lang in the Orange Pool late in the week at 4,650 feet. It came in flowing 1,600 bbls. initial output.

South Louisiana Pools

In the Lockport district, near Lake Charles, Vacuum-Gulf's joint No. 5 Miller is cleaning out at 4,425 feet. No. 6 Miller is drilling around 4,400 feet; No. 7 is at 1,765 feet and No. 8 Miller below 2,435 feet with No. 9 at 1,665 feet. Same interests' No. 3 Farquhar is below 985 feet. No. 2 Friedberg & Wolf is around 3,135 feet. No. 2 Bordages is around 3,765 feet.

In the Jennings Pool, The Texas Co.'s No. 1-C Laterielle is at 3,075 feet. Gulf Refining Co.'s No. 38 Jennings-Clement is sidetracking. Coastal Oil & Fuel Co.'s No. 91 fee is rigging up. Port City Oil Co.'s No. 5 Heywood is also rigging up.

Houston-Gulf Gas Co. has started No. 1 Gray in the Markham (Tex.) Pool.

A check up of operations in 19 Coastal Pools shows 112 wells drilling with 30 rigs in or derricks up.

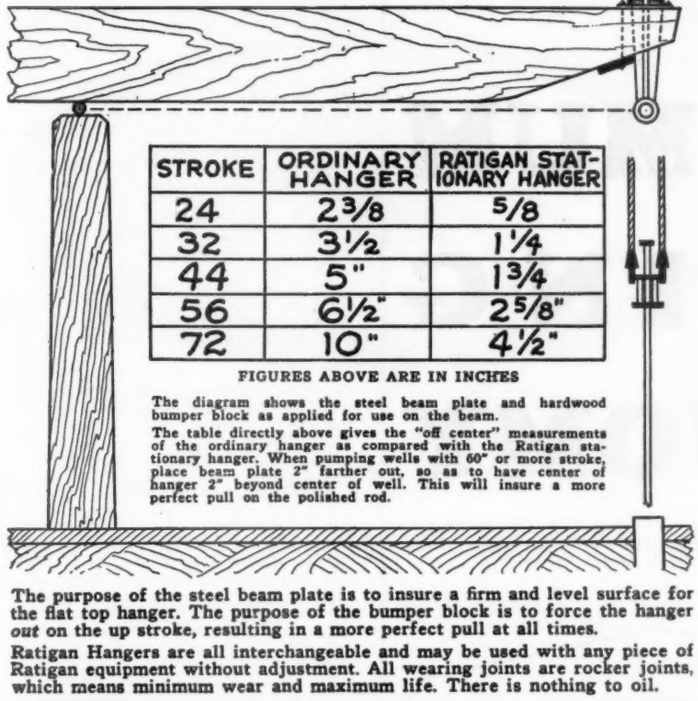
Miscellaneous

Mills Bennet is rigging No. 1 Kirby Petroleum Co. at Barber Hill in Chambers County. W. C. Moore's No. 2 Blencke and C. T. Rucker's No. 1 Lawrence in that county are standing idle.

In Fort Bend County, Harry Pennington has started a test in the northwest part of the county. Gulf Co.'s No. 9 Davis at Long Point is drilling around

No. 15 Sucker Rod Rotor with No. 1 Shock Absorber attached and No. 6 Polish Rod Grip.

No. 15 Sucker Rod Rotor and No. 6 Polish Rod Grip



STROKE	ORDINARY HANGER	RATIGAN STATIONARY HANGER
24	2 3/8	5/8
32	3 1/2	1 1/4
44	5"	1 3/4
56	6 1/2"	2 5/8"
72	10"	4 1/2"

FIGURES ABOVE ARE IN INCHES

The diagram shows the steel beam plate and hardwood bumper block as applied for use on the beam.

The table directly above gives the "off center" measurements of the ordinary hanger as compared with the Ratigan stationary hanger. When pumping wells with 60" or more stroke, place beam plate 2" farther out, so as to have center of hanger 2" beyond center of well. This will insure a more perfect pull on the polished rod.

The purpose of the steel beam plate is to insure a firm and level surface for the flat top hanger. The purpose of the bumper block is to force the hanger *out* on the up stroke, resulting in a more perfect pull at all times.

Ratigan Hangers are all interchangeable and may be used with any piece of Ratigan equipment without adjustment. All wearing joints are rocker joints, which means minimum wear and maximum life. There is nothing to oil.

RATIGAN'S "SURE GRIP" GRIPS CLAMPS BEAM HANGERS TUCKER ROD ELEVATORS SAFETY HOOKS BELL NIPPLES, ETC.

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Oilfield Equipment Co., 30 Church St., New York, Export Representatives

No. 1 Shock Absorber attached to No. 1-A Hanger, and No. 6 Polish Rod Grip

No. 1-A Hanger with Adapter fitting and No. 6 Polish Rod Grip

Refiners using the

MASTER MIXER HEAD

—know their oil

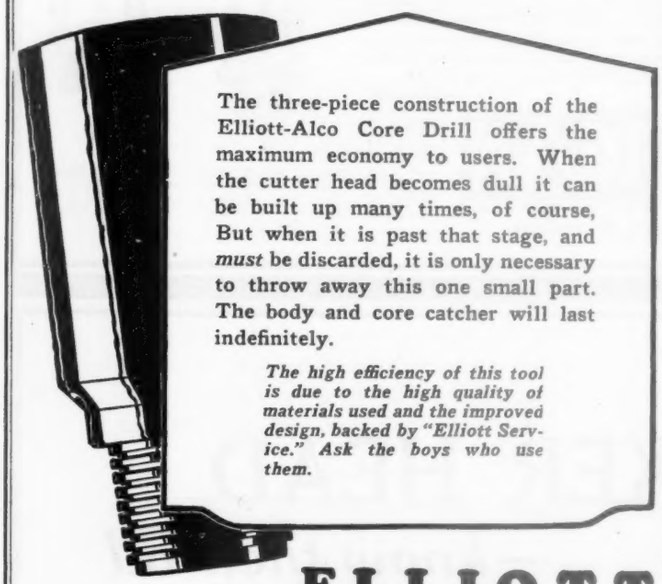
The gasoline or oils to be treated are pumped from running tanks, stock tanks, etc., and enter under pump pressure into the receiving chamber of the Master Mixer Head, passing through especially designed jets at a very high velocity, but in small, divided streams. From the jets the oil passes into a zone containing the treating element where, by siphonic effect, the treating element is drawn with the gasoline through a constricted area. The combination of velocity, turbulence and siphonic effect causes an intimate contact in finely divided state of the gasoline, oil and treating elements.

There is real economy in the use of the MASTER MIXER HEAD—we have the proof in our office of refineries saving 20% to 80% on their GASOLINE TREATING COSTS—write for detailed information.

Petroleum Appliance Company

1419 West 8th St. Los Angeles

MAXIMUM CORING ECONOMY



The three-piece construction of the Elliott-Alco Core Drill offers the maximum economy to users. When the cutter head becomes dull it can be built up many times, of course, But when it is past that stage, and *must* be discarded, it is only necessary to throw away this one small part. The body and core catcher will last indefinitely.

The high efficiency of this tool is due to the high quality of materials used and the improved design, backed by "Elliott Service." Ask the boys who use them.

ELLIOTT
CORE DRILLING CO.
902 Wright & Callender Bldg.
Los Angeles, Calif.
Trinity 8047

BRANCHES:
3210 Harrisburg Blvd., Houston, Texas
123 East 3rd St., Tulsa, Okla.

3,300 feet. P. A. Neilan's No. 2 Fredericks is shut down.

In Brazoria County, the Roxana Petroleum Corp.'s No. 1 Kropp, 16 miles south of West Columbia, at Hinkle Ferry is standing at 550 feet with oil in the hole. It will probably be drilled deeper. The oil shows 24 gravity Baume. Same company's No. 1 on the Clement prison farm is around 3,800 feet. No. 2 Allen is drilling around 2,300 feet.

In Wharton County, J. W. Rich's No. 2 Dennis is drilling around 600 feet, 12 miles west of the Boling Dome. Gu'f Co.'s No. 1 Borden is shut down around 2,750 feet. Rich and associates are starting another formation test to drill to 2,000 feet.

In Harris County, The Texas Co.'s No 6 Warren ranch, Hockley Dome, is around 2,890 feet. Brane Oil Co.'s No. 1 Harrell, near Cross Timbers, is below 1,535 feet.

In Jefferson County, Gulf Production Co.'s No. 1 Burrell at Fannette Dome, west of Beaumont, is drilling around 2,365 feet. Houston Oil Co.'s No. 4 Sun-Davis at Big Hill Dome is below 3,570 feet. No. 1 Sun-Dyson is around 2,675 feet.

In Matagorda County, Shepherd Dome Oil Co.'s No. 2 Hawkins is fishing. Gulf Production Co. has a location for No. 3 Craig.

Plunkett and others' No. 1, 5 miles west of Giddings is bailing at 2,320 feet.

In Grimes County, Rasmussen and others' No. 2 Dodds, 4 miles west of Iola, is a water well at 2,552 feet. Briant and Huber's No. 1, near Piedmont, is drilling around 1,520 feet.

In Refugio County, Houston Oil Co.'s No. 1 O'Connor ranch is drilling around 2,833 feet. Houston-Gulf Gas Co. is starting Nos. 2 Heard and 2-A Heard in the gas belt. Same company is starting No. 1 Cage in San Patricio County.

In Victoria County, Houston Oil Co.'s No. 1 O'Connor ranch is below 2,735 feet.

In the Boling Pool, Oxford Oil Co.'s No. 1 Floyd is reported showing gas around 2,805 feet. Nelms and others' No. 1 Bay sidetracking from 805 feet; No. 1 Morris shut down. Gu'f Production Co.'s No. 1 Chace is reported to have cored a sand showing oil and gas around 2,590 feet. Houston-Gulf Gas Co. is drilling No. 1 Woodfin.

In the Rockdale-Minerva section of Milam County, Bynum & Noack's Nos. 3 and 4 Walker are drilling, as is Rockdale Development Co.'s No. 4-B Chambers and Jennings Oil Co.'s No. 12 Branch.

KANSAS

(Continued from Page 38)

044-2,119 feet, and made 450 bbls. after a shot of 30 quarts. Greenland Oil Co.'s No. 2, SW cor. NW NE, Section 12-22-10, made 400 bbls. after a shot of 280 quarts in sand 2,041-2,123 feet.

Lyon County

Finney & Roberts have rigged up No. 1 Roberts, NW cor. SW NW, Section 32-19-11. Edwards & Buck have a dry hole at 2,185 feet in No. 1, NE cor. NW, Section 14-21-10. Chris Sheedy has a rig on the ground for No. 4 Atyeo, NE cor. SE SW, Section 31-21-10, also for No. 5 Atyeo, NW cor. SE SW, Section 31-21-10, and No. 6 Atyeo, SE cor. NE SW, Section 31-21-10. Ritchie & Moore have a dry hole in No. 3, SE cor. NE SW, Section 34-21-10, at 2,218 feet. Titus and others have a failure at 2,250 feet in No. 1, SW cor. NW SE, Section 34-21-10. M. R. Buck and others are drilling at 550 feet in No. 1, SW cor. SW, Section 5-20-10. Bateman & Spencer have abandoned the machine for No. 1, SW cor. SW, Section 23-20-13. Connell and others have rigged up No. 1 Stewart, SE cor. SW NE, Section 25-20-13.

Chase County

Derby Oil Co. and Braden are drilling at 950 feet in No. 1, NW cor. SW, Section 24-20-9.

Coffey County

Watchorn Oil & Gas Co.'s No. 1, NW cor. NW, Section 29-19-16, is dry and abandoned at 2,065 feet.

Sedgwick County

Chastain & Chastain are drilling at 300 feet in No. 1 Curtis, NW cor. SE, Section 7-27-1w.

Allison & Fitzwilliams have a dry hole in No. 1, NW cor. NE NE, Section 21-29-3w, which is abandoned at 4,306 feet.

Cowley County

In the Oxford district, T. B. Slick has completed No. 7, NE cor. SW NE, Section 19-32-3. Sand was 2,591-2,620 feet, and the well made 75 bbls. natural. The Carter Oil Co.'s No. 8, SE cor. NW SE, Section 19-32-3, had sand 2,-605-21 feet and 2,725-28 feet, and is making 115 bbls. T. B. Slick's No. 1, NE cor. SE SE, Section 24-32-3, was shot with 20 quarts in sand 3,134-57 feet, and is making 25 bbls. Marland Oil Co. is drilling at 720 feet in No. 1, NW cor. NE NE, Section 24-33-2. Waite Phillips Co.-Independent Oil & Gas Co. and Marland Oil Co. have completed another well in the Rainbow Bend region. It is No. 6, NE cor. SW, Section 21-33-3. Sand was 3,254-87 feet, and the well is good for 60 bbls.; No. 5, SE cor. NE SW, Section 21-33-3, is good for 50 bbls. from sand 3,048-90 feet.

In the Winfield Pool, the J. A. Hull Co. has spudded No. 15 Kukuk, SE cor. NW NE, Section 24-32-4; and No. 14, SE cor. NE SE, Section 24-32-4, is good for 260 bbls. after being shot with 10 and 20 quarts in sand 2,992-3,012 feet. Duffield and others have completed No. 2, NE cor. NW SW, Section 19-32-5, for 60 bbls. after a shot of 20 quarts in sand 3,047-51 feet and 3,070-3,105 feet; the rig is built for No. 3 Boyd, SW cor. NW SW, Section 19-32-5. White Eagle Oil & Refining Co. has a failure in No. 1, NE cor. NE, Section 11-33-4, which is abandoned at 3,515 feet. Roxana Petroleum Corp. has spudded No. 1, CEL NE NW SE, Section 36-33-4. Little Martha Oil Co.'s No. 2, C N half SE NW, Section 24-33-6, is good for 25 bbls. after a shot of 30 quarts in sand 1,860-1,900 feet. Marland Oil Co. has spudded No. 1, NW cor. NE NE, Section 27-34-2.

Elk County

Gillespie and others have completed No. 1, SE cor. SW NW, Section 29-31-11. Sand was 1,950-60 feet, and the well is making 2,000,000 feet of gas.

Butler County

Roth & Faurot are drilling at 600 feet in No. 1-A Lewis, NE cor. SE, Section 26-27-8. Conant and others have a failure in No. 1, NW cor. SE SW, Section 26-26-9, which is abandoned at 2,563 feet.

CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Imports of crude and refined oils at the principal United States ports for the week ended February 27 totaled 1,233,-000 bbls., a daily average of 176,143 bbls., compared with 1,710,000 bbls., a daily average of 244,286 bbls. for the week ended February 20 and a daily average of 198,107 bbls. for the four weeks ended February 27.

	Week Ended Feb. 27
At Atlantic Coast Ports—	
Baltimore	133,000
Boston	65,000
New York	518,000
Philadelphia	112,000
Total	828,000
Daily average	118,286
At Gulf Coast Ports—	
Galveston district	85,000
New Orleans and Baton Rouge	320,000
Total	405,000
Daily average	57,857
At all United States Ports—	
Total	1,233,000
Daily average	176,143
Daily average 4 weeks ended	198,107

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended February 27 totaled 570,000 bbls., a daily average of 81,429 bbls., against 686,000 bbls., a daily average of 98,000 bbls. for the week ended February 20 and a daily average of 97,-643 bbls. for the four weeks ended February 27.

	Week Ended Feb. 27
At Atlantic Coast Ports—	
Baltimore	75,000
New York	167,000
Others	328,000
Total	570,000
Daily average	81,429
Total Atlantic and Gulf Coast ports	570,000
Daily average	81,429
Daily average 4 weeks ended	97,643

Patented September, 1913; June, 1924. Other Patents Pending

Reid 24-Foot Band Wheel Powers

The Best for Oil Field Service

All Metal Construction — Bronze Bushings Throughout
Smooth Running — Quiet and Efficient
Heavily Built, Strong and Powerful

Write for Bulletin No. 29

JOSEPH REID GAS ENGINE COMPANY, OIL CITY, PENNSYLVANIA, U. S. A.

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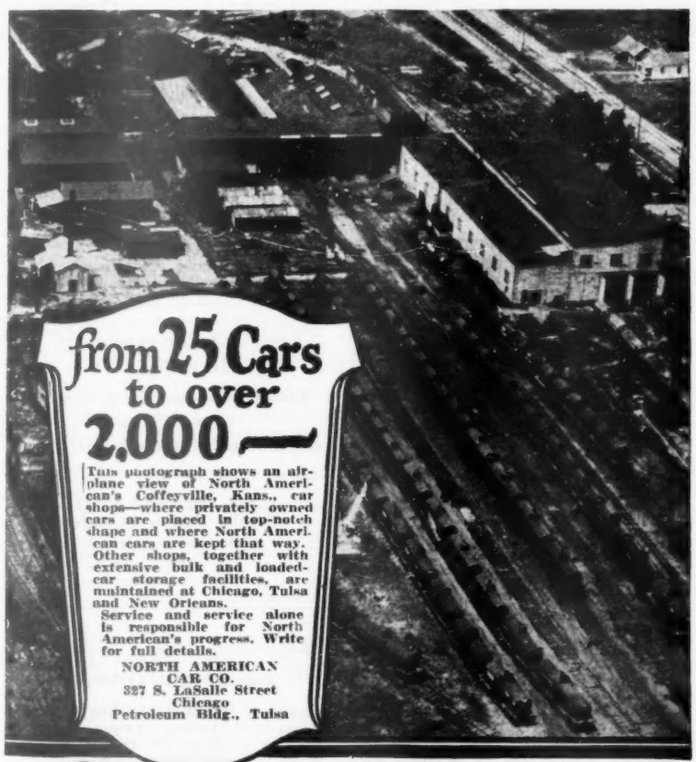
EXPORT SALES REPRESENTATIVE: Oil Field Equipment Co., Inc., 30 Church St., New York City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The Rotary Contractors what they think of Slater's 122′x10″x10″ Rotary Turnbuckle Derrick?

The only Rotary and Standard Derrick with 10″x10″ legs that's built.

We have Standard and Rotary Derrick with 8″x8″ legs and any height.

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Office and Factory: Sand Springs, Okla.

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MAIL your advertisement now. It will be published next week. Cash with order.

LEASES—PRODUCTION

WE SPECIALIZE in oil leases in Culberson County, Texas. Have desirable acreage in the Permian formation on structure.
TRI-STATE LEASING CO.
H. O. Thraills 210 Two Republics Bldg.
El Paso, Tex.

NEW OIL DEVELOPMENT in Texas County, Oklahoma, five wells now drilling, more will be soon, wildcats; send for price lists of leases and royalties. Send 25 cents for map, showing blocks, wells, checkerboarding; big excitement.

GUYMON LAND & LOAN CO.
Guymon, Okla.

170,000-ACRE BLOCK potential oil and cotton land. Fee $5.00 per acre. South Artesia, New Mex. region, across the line in Texas. U. S. Geological Survey reports Lower Permian Exposure, shallow Pennsylvanian. Dome structure. Texas Bureau Economic Geology reports 1,000 feet oil shales underlying, two horizons 1,800 and 3,400 feet. For sale due to age of owner. P. O. Box 625, Dallas, Tex.

8,000 ACRES solid block, Woods County, Oklahoma. Fully surveyed by nationally known geologist. Rentals paid to 1927. Direct trend of new Kingman County, Kansas bear cat. Want a well. Showings in shallow wells all sides near by.
J. P. THURMAN, OWNER
Wichita, Kans.

FOR DRILLING contracts, some three to seven-acre tracts of proven acreage in the Davenport Field. For particulars, address Box 306, Davenport, Okla.

DEEP TEST WELL NOW DRILLING IN NORTH FLORIDA
T. F. Bray and associates from Arkansas are now drilling a deep test well for oil and gas located on the Monticello Dome in Jefferson County, Florida. Send for structural and drainage map; also geological report.
Geology by Dr. S. T. Wisby of Little Rock, Ark. We desire to hear from all of those who are interested in purchasing leases and royalties around this well.
T. F. BRAY, TRUSTEE
Box 127 Monticello, Fla.

NEW MEXICO — 20,000 acres San Juan and Rio Arriba Counties, Government perits. Want drilling in contracts with reliable companies. Percentage basis. Good terms. Shallow drilling. Oil 66 Baume, 84 per cent gasoline. Proven structure. Four sands. Approved by high-class geologists. Write us for particulars. International Development Co., 1006 Patterson Bldg., Denver, Colo.

HAVE SEVERAL pieces of flush and settled production for sale in Oklahoma and Wichita Falls districts. Prices reasonable and terms can be arranged if necessary. P. O. Box 1144, Dallas, Tex.

5377.6-ACRE block in southeast corner Comal County, 20 miles northeast of San Antonio, in 3 leases. Will give interest in for well on lease drilled or will sell part. Dorr H. Carroll, 403 New England Bldg., Kansas City, Mo.

HAVE LOCATED two promising structures 100 miles east of Austin, Tex., one should give results near 1,550 feet, the other is probably a saline dome or gas area. This is new stuff and can be blocked on drilling contract, for particulars, address R. E. Graves, Telephone 857, Temple, Tex.

FOR SALE—Desirable oil leases in established Kentucky Field, shallow drilling, good market. Prices reasonable; references. Write F. J. G., Box 402, Glasgow, Ky.

OIL LEASES and royalties, Winkler County, Texas, near Westbrook deep test now drilling on line from Big Lake to Artesia. Oscar Clapp, owner, Kermit, Tex.

SOUTHEAST NEW MEXICO
Can furnish practically proven leases in Artesia Field, Eddy County. Also other tracts in Eddy, Chaves and Lea Counties. Particulars on request.
H. T. ORCUTT
1114 Colcord Bldg., Oklahoma City, Okla.

LEASES—PRODUCTION

PRODUCTION REPORT sheets for sale—2,500 on hand. Will take $10 for the lot. Sample free. W. H. Graffis, 28 E. Jackson, Chicago, Ill.

LEASE SALESMEN-BROKERS
Sell where the play is big and the publicity unlimited. The Marathon Fold in West Texas is now the center of tremendous development by major oil companies. I can supply you with choice leases in Reagan, Crockett, Val Verde, Upton, Irion, Loving, Winkler, Ward, Reeves and Pecos Counties, large or small blocks adjoining big companies. Write for prices and maps stating what county you are interested in.
B. D. BUCKLEY
5th Floor Central National Bank Bldg.
St. Louis, Mo.
Reference: Page Bank, St. Louis

FOR SALE — Leases, production and partly developed leases. On account of shallow drilling, low cost of equipping, small operating cost, high gravity oil and long life production, Kentucky offers the best opportunity for the small investor. We have for sale producing properties with 2 to 100 bbls. daily production and large undeveloped acreage with proven locations to drill. Address W. P. Harley, Bowling Green, Ky.

PRODUCTION—243 acres in Gibson County, 6 miles east of Princeton, Ind., on improved state highway. Two leases, no rentals. Leased on one-eighth royalty, six wells on pump, 1,420 feet deep. Two years old, producing about 25 bbls. per day. Wells make some water. Oil sells $2.12 per barrel. Thousand-barrel storage tanks connected with Illinois Pipe Line. 25-horsepower Fairbanks-Morse crude oil engine, Mascot power, boiler for steaming oil. One string of 10-inch and 8-inch drilling casing. All equipment in best of condition. Drilling well cost $2 per foot on contract. Six proven locations on lease with possibly more. Will sell everything for $1,500 per barrel on a 10-day test. If you want a first-class property and are willing to pay the price come look this over. This is about all the information I have that I can give you, and if you mean business verify this by personal inspection. H. A. Mann, 314 Parrett St., Evansville, Indiana.

NORTHEAST LOUISIANA

Excellent play just beginning; many wildcats now drilling within fifty miles of World's Greatest Gas Field; new oil field at Tullos. Several highly promising structures. Can furnish new leases, royalties, fee, drilling propositions. Reasonable prices now. Responsible correspondence invited. Brokerage co-operation. Chas. G. Bennett, Licensed Bonded Broker, Monroe, La.

10,000 ACRES leases Calhoun County, Miss., for well. No rent one year, 25 cents acre after. Good geology. Mawk & Co., 282 South Front, Memphis, Tenn.

FOR SALE—Panhandle oil leases and royalties. Texas Co. now drilling this acreage. E. Cooper, Amarillo Hotel, Amarillo, Tex.

WEST TEXAS Marathon Fold oil leases. Personal investments since 1919. Write for data and maps. Paul Konz, P. O. Box 291, Fort Worth, Tex.

HAVE BUYERS for flush or settled production in Oklahoma and North Texas. Vern R. Hartman, P. O. Box 442, Dallas, Tex.

FOR SALE—Leases in the Panhandle oil fields. W. R. McDaniel, 2105 Sixth Ave., Ft. Worth, Texas.

FOR SALE—Leases around wildcat test in Western Kansas, test contracted to go 4,000 feet, now down 2,500 feet, and have had oil showing, and good gas showings. Box B-181, The Oil and Gas Journal, Tulsa, Okla.

GARFIELD COUNTY, Montana, east end Cat Creek. Structure 1,700 feet to sand. Most of my 1,920-acre lease for a well. L. R. Carroll, Roundup, Mont.

LEASES—PRODUCTION

LIBERTY COUNTY, Texas; 75 acres for lease in southwest part of Hull Field, part of which is one-third of mile from production. Will only lease to a company amply able to drill 4,000 feet.
GERALD H. HUGHES
Box 27 South Orange, N. J.

OIL AND GAS LEASES
Marathon Fold—West Texas
30,000 acres Crockett County, large and small blocks; adjoining big companies; scattered wildcat. Also close-in adjoining World well block.
20,000 acres 10-year leases; low rentals; Terrell County, getting good play. Watch this county! Prices right.
Upton County. Scattered tracts.
60,000 acres one block, southeast Pecos County, on geological formation. Most attractive as to desirability, price and terms.
5,000 acres in Irion County. Ten-year lease; watch the new work here.
7,000 acres Loving County. Ten-year lease; 10-cent rental. Right in line.
Write for prices and maps. Will allow time for geological inspection.
C. W. WEBSTER
W. T. Waggoner Bldg. Ft. Worth, Tex.
Reference: Mercantile Agencies

WOULD like to hear from parties wishing to invest in Oklahoma. Wildcat leases and royalties. W. H. Adams & Co., 203 Clinton B'dg., Tulsa, Okla.

FOR SALE — About 50 bbls. settled production in old field 6 miles southwest of Burkburnett, Texas. About 25 wells, newest one 10 years old. Also about 20 wells with five bbls. total, near Nowata, Okla. Address B. O. Mahaffey, 704 Shell Bldg., St. Louis, Mo.

CAN MAKE attractive offer exchanging acreage for drilling test well on several thousand acres located Henderson, Smith and Van Zant Counties, Texas, near Chandler. All on structure and passed on by noted geologist. Address, Fidelity Petroleum, Inc., Delphos, Ohio.

FOR SALE—Leases, production and royalties in Barren County, Kentucky. Shallow drilling, high gravity oil, long life wells. Have some leases adjoining production. Small rentals. L. W. Preston, Glasgow, Ky.

FOR LEASE oil and gas acreage, located in 16-17-19 and 20-12-11, Okfuskee County, Okla. Herman Sions, Moorefield, W. Va.

THREE BARRELS on 100 acres in Allen County for $2,500. R. E. Cope, Bowling Green, Ky.

KENTUCKY'S great shallow sand pool in Cumberland County to be extensively drilled this spring and summer. Structures well defined and seven producing formations found from 250 feet to 1,400 feet. Have leases for sale adjoining present producing properties, other leases on drilling proposition. Two Creeks Oil Co., 510 Security Trust, Lexington, Ky.

FOR SALE—160 acres, oil lease, 15-16-9, Creek County, near Bristow, big league territory, participating offer; also 160 lease in 14-5, near Davenport, Lincoln County. I am as flat as a duck's webb, and need help to drill. Write Box 11, Nowata, Okla.

FOR SALE—290-acre lease, Alluwee Field, Nowata County, 16 producing wells, fully equipped, air pressure being installed on the adjoining lease, wonderful buy, price low. Write, wire, or better come. J. A. Wright, Nowata, Okla.

FOR SALE — 8,000 acres rich shale and prospective drilling land, center Uintah Basin of Utah-Colorado, which geologists say is the greatest undeveloped oil field in the world. Surrounded by enormous gas wells. Near oil field and railroad. Prices fast advancing. Will sell in body or parcels 160 acres up. Empire Land Syndicate, 503 Brisbane Bldg., Buffalo, N. Y.

WILDCAT ACREAGE in Texas Panhandle, $1 to $2 per acre. Dr. W. R. German, Canadian, Texas.

FOR SALE—266 2/3-acre gas and oil lease, proven but undeveloped, 8 miles west of Chanute, M. L. Tebay, 127 N. Forest Ave., Chanute, Kans. Phone 1233.

LEASES—PRODUCCTION

FOR SALE—80 acres, heart of production Pine Island, Louisiana, Field, offsetting deep test drilling to Trinity sand. Several locations left to drill. Two are offsets to producers. Also looks like sure shot for big chalk rock 1,600 feet of production. Price $300 per acre, part cash, balance oil. Box B-197, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE—Leases and royalties on Reiter-Foster line from Kosse southwest into Milam County. Some choice acreage near point of oil seepage where line crosses Brazos River. Got it or get it. Reference Dunn or Bradstreet. Norton Realty Co., Calvert, Tex. Percy T. Norton, Mgr.

FOR SALE — Four wells, 95 acres, 1,000-foot sand, settled, good for 20 bbls. daily $2.10 oil with about 12 sure-shot locations to drill. Located only 1,300 feet from deep test being drilled by joint interests contracted to 3,800 feet, which will test about seven known sands, including gas recently discovered by Standard of Indiana and Amerada Petroleum Corp., higher on the structure. Owner moving to California, sell for $7,500 cash, balance from oil. Box B-198, The Oil and Gas Journal, Tulsa, Okla.

MINERAL LANDS, leases, royalties, maps, geological work done. West Texas only. V. A. Thompson, Pecos, Texas.

ROYALTIES—PRODUCTION

ONE-EIGHTH of royalty interest in 40-acre tracts, near several drilling wells, along Mitchell-Howard County line, Texas, for sale by fee owner. Leases held by practically all major operating companies. Also a few 40-acre tracts, same territory, for lease. Harry Hyman, Colorado, Tex.

WEST TEXAS

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Write us for information.

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Producing royalties and royalties on drilling structures. Write us your requirements. Edwin F. Hyland & Co., 923 Kennedy Bldg., Tulsa, Okla.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

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MAIL your advertisement now. It will be published next week. Cash with order.

ROYALTIES—PRODUCTION

FULL ONE-EIGHTH ROYALTY—Have 1,280 acres and will sell half, 1 mile from Humble well, Reeves County; spudded in two weeks ago, finish in 60 days; most important development ever started in West Texas; easily worth $50 when oil shows. For quick sale, $5 an acre, any part.

Have 5,000-acre lease, northern Loving County, the "Oil County of West Texas," where two mammoth structures meet. Will sell assignments, 40 acres or more, not to exceed 2,000 in aggregate; expect to drill balance, $2 per acre. Plat and geological report furnished. Others charging $10 to $75 per acre for similar acreages.

You can safely buy these with your eyes shut. If dissatisfied within 10 days, will refund full purchase price instanter and ask no questions. Am a pioneer developer in Pecos Field and overloaded. Just finished dry hole, need cash; my loss your gain.

E. L. STRATTON
1604 F. & M. Bldg. Fort Worth, Tex.

WHAT HAVE YOU to offer in producing royalties that can be bought right. P. O. Box 1362. Tulsa, Okla.

FOR SALE—REFINERIES

THOUSAND-BBL. REFINERY with big tankage complete, or will dismantle. Address W. G. Endicott, Box 907, Ardmore, Okla.

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We are in the market for
Salvage Pipe
Any amount—Anywhere
ACME PIPE & SUPPLY CO.
Corsicana, Texas

I WILL pay cash for a standard string of tools or a Star No. 30 or No. 28. Must be in strictly first-class condition. Box B-195, The Oil and Gas Journal, Tulsa, Okla.

WE ARE at all times in the market for all sizes line pipe and casing. See us before you sell, and make money.
IMPERIAL PIPE & THREADING CO.
P. O. Box 1231 Wichita Falls, Tex.

FOR SALE—EQUIPMENT

STAR No. 28 fully equipped at Glasgow, Ky., for sale at sacrifice. Box 187, Chelsea, Okla.

CRAGO CUT GEARS
Worthy of your confidence. General machine work. 1416 Walnut. Kansas City, Mo. Phone Harrison 7660.

CASING AND LINE PIPE
We buy and sell.
Let us figure with you.
ELLIOTT MACHINE & SUPPLY CO.
Depew, Okla.

FOR SALE
Three 100-ton ball horizontal refrigerating machines.
One 200 h.p. Twin Duplex Western Gas Engine.
One 160 h.p. Rathbun-Jones Vertical Gas Engine.
Four steam-driven Westinghouse Air Compressors.
This equipment is in good condition and priced right. For further particulars address
DEVONIAN OIL CO.
Box 1441 Phone 6221
Tulsa, Okla.

28 STAR RIG with boiler, cordage, bits, etc. First offer of $600 buys. Lockwood Investment Co., Oklahoma City, Okla.

DRILLING MACHINES FOR SALE
Machines and rigs ranging in sizes from No. 4 Keystone to Standard rigs for sale, also a large stock of drill tools of every size and description. Write or wire us for prices. Sewell Well Co., 1627 Locust St., St. Louis, Mo.

FOR SALE
1—12x6¾x12 Acme Mud Pump.
1—12x6¾x12 Ideal Mud Pump.
Box B-175, The Oil and Gas Journal, Tulsa Okla.

FOR SALE—EQUIPMENT

JARECKI pipe machine in A-1 condition. Cuts from 2½-inch to 12½-inch. We have 50 sets of dies to go with machine. Will gladly demonstrate.
IMPERIAL PIPE & THREADING CO.
P. O. Box 1231 Wichita Falls, Tex.

FOR SALE—Two 85-h.p. Watt Miller direct connected vacuum pumps on foundations; 2½ miles north of Elgin, Kans.
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REFINING EQUIPMENT
Having just purchased the complete plant of the Neha Oil Refining Co., Campton Junction, Ky., we offer for early shipment the following modern, first-class equipment. Exceptionally good condition, this plant recently almost completely rebuilt with new material, and price low.
2—500-bbl. stills, 10'6"x36', ½"x⅝" plate.
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1—3,200-bbl. Field Oil Tank.
1—2,000-bbl. Field Storage Tank.
5—300 to 500-bbl. Horizontal Storage Tanks.
12—Miles 2", 2½" and 3" pipe.
2—20-h.p. Field Boilers, Steam Pumps, Field Pumps, Look Boxes, Testers, Pipe Tools and miscellaneous equipment.
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For Sale
200 ft. of 50-lb. 12½" at $2.00 per ft.
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1,800 ft. of 17-lb. 6⅝" at 80c per ft.
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POSITION WANTED

CHEMIST—Now employed, with B.S. degree in chemical engineering and three years oil testing, analytical and research experience, desires position as chief chemist or assistant in modern refinery. References. Box B-193, The Oil and Gas Journal. Tulsa, Okla.

ACCOUNTANT—Oil production, pipe lines, refinery marketing, corporation taxes. Actual field experience. References. Box B-192, The Oil and Gas Journal, Tulsa, Okla.

EXECUTIVE AND ACCOUNTANT, 33 years, married, college education, now employed large oil company; speaks, reads, writes Spanish fluently, desires change to other oil or mining company operating Mexico or South America; 12 years' experience. Excellent references. Box B-194, The Oil and Gas Journal, Tulsa, Okla.

TAX MAN—Well qualified, strong personality, several years' experience in tax and claims, is now tax and claims commissioner of major oil company. Has good reasons for considering change. Has extensive acquaintance with taxing authorities in Mid-Continent Field, and several States. Can produce results. If interested would like interview. Correspondence confidential. Box B-191, The Oil and Gas Journal, Tulsa, Okla.

POSITION WANTED

OWING to exhaustion and abandonment of oil and gas wells in which I have been interested the last five years, am open for position as production and drilling superintendent. Having 16 years' experience handling cable tool and rotary production and drilling, can drill your wells right and economically and get all production at small cost per bbl. Not afraid of hard work. Go anywhere. References. Married. Box B-199, The Oil and Gas Journal, Tulsa, Okla.

WANTED — Position with active oil company, small salary and interest. Acquainted with both cable and rotary tools, four years' experience in producing, five years in leasing, well acquainted with Louisiana Gulf Coast district and West Texas. Have promising Texas acreage now in sight. Can furnish first-class references. Box B-196, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

GRADUATE ENGINEER—25 to 30 years of age, with power plant or refinery experience preferred. Should be familiar with estimating, construction and operation. This is a permanent position with large Mid-Continent corporation. Box B-190, The Oil and Gas Journal, Tulsa, Okla.

DRAFTSMEN experienced in refinery and general oil field layout and construction. Must be familiar with design as well as detail work. Experience and sample of work to accompany application. Chief Engineer, Empire Companies, Bartlesville, Okla.

SALESMAN
An ideal opening for an aggressive high grade salesman, not older than 45 years, who has had some experience selling oil, gas and electric light and power companies. To the right man, we offer the opportunity of lining up with a live, wide awake sales organization, backed with national advertising and a guaranteed weekly drawing account. We are manufacturers of high grade paints, enamels and specialties, catering to the above industries. Our reputation is A-1 and our line complete for general industrial uses. Our specialties are in heavy demand, being manufactured by us exclusively. Let us hear from you so we can arrange an interview. Box B-183, The Oil and Gas Journal, Tulsa, Okla.

WANTED rotary driller, must be good formation man with long experience in deep wells with hard formations; man with Oklahoma experience preferred. Answer with the best of reference only. Box-180, The Oil and Gas Journal, Tulsa, Okla.

AMERICAN ENGINEERS Service, Pittsburgh, Pa. Require for Eastern-Western-Southern employment proposals; construction, designing engineers, draftsmen, transitmen, power engineers, chemists. Mechanical-structural draftsmen for every purchase, premium salaries offered.

ADDRESSES WANTED

JOHN WASHINGTON, formerly from Ardmore, Okla., please communicate with Buckley, Webster Bldg., Chicago, Ill.

ANYONE KNOWING the whereabouts of Thomas Dewey Whitaker, a riviter and member of Boilermakers Union, will confer a favor by notifying his mother, Mrs. Marie Whitaker, general delivery, Lincoln, Nebr. He was well known in Ranger Field. Please write to me if you have seen or heard of him since 1921. He is now 27, wears glasses, has blue eyes and a fair complexion. I will also appreciate any information concerning his brother.

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Oil pipe line welding by contract.
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PROMINENT, recognized, petroleum chemist will sell for cash or cash and royalty basis formula for penetrating oil developed by himself. Big profits assured. Sample on request. Inquire about other formulas. Box B-172, The Oil and Gas Journal, Tulsa, Okla.

BUY ROYALTIES on drilling structures. Quick play for profit on small investment. Get on our mailing list. For particulars write Hyland & Co., Kennedy Bldg., Tulsa, Okla.

BROKERS—SALESMEN
A sound seasoned royalty company paying monthly cash dividends offers hustlers an opportunity for big money. Company going on six years old and has paid over 115 per cent in cash dividends. Splendid cooperation, many repeats. For particulars write E. F. Hyland, 923 Kennedy Bldg., Tulsa, Okla.

CASINGHEAD GASOLINE by-product of interest to owner of plant (over 1,000 gallons per day) located in Kentucky or Louisiana. Box B-163, The Oil and Gas Journal. Tulsa, Okla.

AN INDIVIDUAL with $500 or more may invest and become affiliated with practical men in new oil company, having very valuable foundation and assets; investigate; it will pay. Call or write 217 Central National Bank Bldg., Tulsa, Okla.

WILDCATTERS, ATTENTION
Will exchange large block oil and gas leases on first-class geological structure; natural gas seepage; easy stuff to work; in Polk County, Wisconsin, for test well. Geo. Laskowske, Turtle Lake, Wis.

DOGS—POULTRY

PEAFOWL pheasants, bantams, pigeons, wild geese, ducks, breeding stock, hatching eggs, free circular. John Hass, Bettendorf, Ia.

BEAUTIFUL registered bull pups $15. Bulldogs, 501 Rockwood, Dallas, Tex.

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OIL FIELD LEGAL BLANKS—Leases, assignments, releases, township books, well records, etc. Request on your letterhead gets free catalog. Old Press, 215 East Third St., Tulsa, Okla

INCORPORATIONS

DELAWARE incorporators. Charters fees small, forms. Charles G. Guyer, 901 Orange St., Wilmington, Del.

FOR SALE—MAPS

ARKANSAS WELL LOG COMPANY
214 P. O. Bldg., El Dorado, Ark.

Additional Classified Want Advertisements on Page 119

METERS

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Kansas City—Mutual Bldg.
Columbia, S. C.—1433 Main St.
Seattle, Washington.
Los Angeles—Union Bank Bldg.

To Refinery Officials

concerned with the maintenance of oil stills, converters, boiler furnaces, bone black furnaces and Fuller's Earth kilns.

MAINTENANCE of fire brick construction in your stills, converters, bone black furnaces, Fuller's Earth kilns and boiler furnaces is a big item of expense—one that you constantly strive to reduce.

In such efforts, many refinery officials have found a valuable aid in ADAMANT, the *original* high temperature fire brick cement.

In a Texas Refinery, for example, brickwork in 10 stills and 4 boiler furnaces now lasts three times longer than formerly, because the brickwork is now laid up with ADAMANT. This longer life for brickwork cut maintenance costs by over $6,500.00 per year—and this appreciable money-saving was made on only 10 stills and 4 boiler furnaces!

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This new booklet contains many suggestions that will help you build long-serving brickwork. Write for a copy.

Botfield Refractories Company
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BOTFIELD REFRACTORIES CO.,
783 So. Swanson St., Philadelphia, Pa.

We want to find out what ADAMANT can do to help up prolong brickwork life and reduce repair costs.

Name and Title .....

Company Name .....

Address .....

CHICAGO PRICE IS FIRMLY HELD WITH HOPE DEPENDING ON SPRING

By J. B. Waldo

CHICAGO, Mar. 6.—The very considerable movement of gasoline during the first week in March shows that while a market may be very quiet, so far as spot or open market dealings are concerned, there is often a very fair movement to the distributors going on. Several large sales of train load lots have been reported to leading distributors and refiners with lists of franchise or contract customers who have been shipping very fair quantities for the time of the year. The season must always be considered. This year the February dullness has been increased many believe by the bad conditions yet February and March of 1925 were better than the corresponding months of 1924.

The annual report of the Standard Oil Co. of Indiana shows that the value of its stock of products is close to $15,000,000 greater than last year and it expects to find buyers for the increased quantity. Right now the companies with the larger territories report a better business than a year ago. The complaints come largely from concerns that operate in a restricted district, part of a state or less. While there has been a steady movement of gasoline from the refineries of the large companies to the tanks of their own stations and from the refineries to their franchise and contract customers there has been comparatively little purchasing in the spot market as the business of the smaller dealers is small right now. In this connection, the number of dealers who have had contracts and have not now is not very much increased. Most of those who had contracts have covered at least a fair portion of their requirements by some form of an agreement with some source of refined products. As refiners expand their own distribution they naturally decrease the number and quantity of their contracts with independent jobbers. If they do not do this they must increase the output of their refineries and the former is the better plan. The Roxana Petroleum Corp. is a good example of how the plan of having your own distribution works out with a refiner. The Roxana has had to reduce the quantity of contract gasoline to leave a supply for its own stations.

Gasoline Firmly Held

There has been quite a lot of effort to move gasoline but the price is held with considerable firmness and the marketer and the jobber are being quoted in most cases the same price. Right now the price for U. S. Motors gasoline is 10 to 10¼ cents with a good deal of the business going at 10⅛ cents. The price of 10 cents has been quoted during the week by several leading refiners direct to the jobbers and they state that their reason for making such a low price is that they were losing business by not doing it. The jobbers were being actually quoted at 10 and 10⅛ by other refiners who probably had to move some of their stock. One refiner stated his crude bill was running $325,000 a month and his pay rolls $25,000 during the same period. This is a lot of money for even a good concern to pay out month after month and there are few that can do this without having some income from the sale of their most valuable product, gasoline. But the trade says the 10-cent price is the bottom price and it is a good thing it is in a way for that is just about what the gasoline costs many of the jobbers under their contracts with the present tank wagon scale and for this reason there is no great temptation to fail to order on contracts but to buy in the spot market. The market is in no sense easy although there are reports of sales by some large Eastern Coast plants at something under this price at points in Ohio and a few in Michigan. The statement is made that the Atlantic Refining Co., for one, is selling at a price which figures out 9¾ cents, Group 3, and others are said to be making the same price. There has been considerable inquiry from the jobbing trade for gasoline over March but they want it at 10 to 10¼ cents and the sellers are unable to make any such price. In fact, there is a general belief that after the middle of this month, there will be some improvement in the spot demand as by that time road conditions may be greatly improved. There has been very little change in the demand for the higher tests. These have dragged and while the 60-62 440 has been held better even it is slow, if fairly firm. Natural gasoline has been quiet here but the price situation shows that C grade is worth about as much as B grade and in some cases it is reported sales have been made of the latter at the price of C gasoline when the C grade was not available.

Kerosene Firmer

Kerosene firmed up a little, believed due to first of the month demand and some say that since the first few days the demand has been light. Prices are generally firm and even strong but in Ohio, the Pennsylvania refiners are stated to be offering 45-47 Pennsylvania gasoline at less than the parity of Group 3, in some cases a cent less than the cost of Group 3 kerosene of the 41-43 gravity laid down at Ohio and Michigan points. This is largely because of the freight rates which favor the shorter haul. Locally some are holding for 7 cents and say they are getting business at that price and little is available at less than 6⅞ cents. The demand for 42-44 gravity is light and the supply limited and the result is a quiet market at 7¼ cents. Offerings of kerosene are somewhat more liberal but not large.

Furnace Oils Helped

Furnace oils have been a little helped by the cold snap so far as the distillate are concerned. At the close of the week there was some increase in the demand from jobbers for distillates and the market was more firm. In several cases jobbers when solicited for orders said they were not quite ready to order but might be forced to do so if the chilly weather continued. They are very unwilling to order anything they may have to carry over into next season. There was no change in prices but the offerings of cars on track at some concessions was stopped by the increase in the local demand. There is little doing in the 36-38 distillate but the 38-40 straw distillate is selling at 4 to 4½ cents for prompt delivery.

Gas oils have been firm. The demand here is quite good but not better than that. The business is running along very quietly with the more active inquiry reported to be from refiners in the field for their cracking stocks. There is a steady industrial demand and prices are a little stronger with quite a number of sellers asking 4 cents for a straight run gas oil. Some out of the ordinary products are occasionally offered here produced by some of the new cracking methods and among these is a gas oil, at least so called, which has few of its valuable qualities. All the viscous material has been taken from it with every bit of the lighter stock, yet it has the gravity required for a gas oil grading.

Fuel Oil

The fuel oil market continues to move along with very little change except that the lower gravities are less strong and the demand for the lighter gravities seems to be satisfied. It is quite commonly predicted that in a couple of weeks, these higher gravities which have commanded a premium will resume their normal price relationship to the heavier grades. There was a little more activity early in the week, but this was simply the placing of orders for the monthly requirements of several concerns buying on a monthly basis. This list has been increased by a number of firms whose contracts have run out and who are not ready to place

new contracts at the present asking prices. There is a good deal of uncertainty regarding the gradings of oil and some purchasers have tried to draw specifications that will insure them in getting a certain wanted grade and kind of oil. In the majority of cases it simply means the buyer is paying a premium if he insists on the purchaser furnishing the exact grade specified. There is very little 24-26 gravity fuel oil available and almost none with a low sulphur content and a low cold test. Buyers in almost every case would do better to taken an 18-22 oil at the difference in price yet some insist on the specifications being filled exactly. Recently a car was rejected because it only tested 23 gravity. The refiner billed it truly as a 22-26 gravity but when the consumer received it the final billing was 24-26 gravity. There was nothing the matter with the oil. It came from one of the best Mid-Continent refiners and it would have answered every purpose. As a matter of fact, it was a better oil, cleaner and richer in thermal units than 90 per cent of the 24-26 fuel oil. There are other buyers who order a 24-26 gravity oil but will accept any good fuel oil and have used as low as a 16 gravity without complaint. It will readily be seen how the former buyer is obliged to pay a higher price for his oil simply to gratify a whim or fancy of some technical man which is not favored by good engineering practice. These specifications really mean little and should be changed until they really call for qualities that are useful and of value. There is a cracked fuel oil that shakes in the sample like gasoline, and has a low cold test away down below zero, yet it has a 17 degree gravity. The bulk of the business during the week has been in 18-22 gravity refinery fuel oil of which the bulk has moved at $1.15 and Smackover crude on which the price range is now from $1.10 to $1.12½. The latter may not be as freely offered but there is plenty for the present demand.

Lubricating Oils

There is a lot of complaint in the lubricating line of the great variety of prices quoted and the desire of some refiners and compounders to get orders, the latter desire resulting in the former condition. In the industrial oils the demand is fair but the older sources of supply hold their business in spite of the active efforts of the new organizations to displace them with the larger buyers. As one seller expressed it, the industries in this territory secure a large part of their supplies from the Vacuum and Standard Oil Co. of Indiana and the rest of us have to fight for every bit of business we get. Right now the demand for motor oils is light and the export demand very quiet.

Q. D. A. Discussion

There has been no general change in the tank wagon markets over the territory. In South Dakota there have been advances towards the normal rate at several minor points designed to bring the markets in that State back into line. The trade here does not anticipate any general revision for some time as the present refinery prices are so low any advance to consumers would result in a wide margin that would permit price cutting. When the demand is better due to larger consumption there will be a basis for higher tank wagon prices. Yet there are many who believe that prices should be adjusted if they need adjustment now or soon when the demand is not so large and users would notice any increase less than later in the season when the autos are being run a larger mileage. Statements made by the larger distributors as to their gallonage are almost universally favorable. Some express surprise that with conditions as they are they have done so good a business during the month to date and during February. The Q. D. A. is still the chief topic at most of the meetings of independent jobbers. The Madison, Wis., hearing before the Wisconsin Department of Markets is tentatively scheduled for March 18, and a decision either for or against the continued use of the discount system must follow. There has been a decision in Tennessee that seems to have some bearing on this case, that decision being, according to the oil men, that a reduction in price which is not warranted by some reduction in costs is against the best public interests. It is contended that a quantity discount for purchases made at different points is against the law that calls for equal prices for equal quantity and service. The argument is that if the agents of a purchasing company buy small quantities in various separated places during a month totaling, say, 1,000 gallons, this does not make the same reduction in operating expenses or producing costs or both, that might possibly result from the purchase of that quantity at one time and in one place. The discussion at the various state meetings has resulted in no decision or even a suggested plan for competing with the Q. D. A. which is, according to the trade, working some hardship to the smaller companies. There is this to be said, that the ability of a large company to supply the trucks and cars of a large customer over a considerable territory is a service. It insures uniformity of fuel in quality, a determined scale of prices, dependable service and other advantages as well as the discount due to quantity purchase. There are many industries in which the price is based on total purchases to be made over periods and at various places.

EASTERN REFINERS INCREASING STOCK; SUDDEN RUSH OF MEXICAN IMPORTS

By N. O. Fanning

NEW YORK, Mar. 8.—The eastern refined oil markets continue firm, although the sentiment is somewhat less optimistic due to the upturn in crude oil production. Prices are holding steady. Domestic demand is all that could be expected, and the export volume is fair.

There is an undercurrent of pessimism in some quarters with regard to the immediate outlook for prices, especially with regard to gasoline. Some refiners say that despite smaller refinery runs the output of gasoline is gaining due to cracking and they fear the prospect of higher prices will stimulate output to the point of overproduction.

Eastern refiners, who are also the principal marketers, seem to be well stocked with gasoline, and, according to the best information available, are piling up stocks, although they, too, are restricting runs of crude oil. This probably is the reason for the cut in Pennsylvania crude today.

There has been a sudden rush of Mexican oil to Atlantic Seaboard ports, which has now continued long enough to indicate a definite trend. Inasmuch as production is declining in that country, stocks are probably being drawn upon to supply the increased exports. During the last two weeks imports of oil at Atlantic ports have averaged 182,000 bbls., against an average of 124,000 bbls. for the month of February and only 96,000 bbls. in January.

It is understood considerable of this Mexican crude and fuel oil is being subjected to refining to obtain the maximum yield of gasoline, which nevertheless is somewhat limited due to the low gravity of the crude. However, so long as Mexican oil can be made available at the current rate, the possibility of higher quotations in the American markets seems remote.

In addition, California receipts at Atlantic ports have been running quite heavy. The tendency to take more oil from the Gulf Coast seems to have waned with the increased takings from Mexico.

Taken all in all, the crude situation, from a refining viewpoint, is not as bright as it was at the opening of the year, and many marketers believe that unless consumption is beyond present expectations slightly lower prices may be in order.

Gasoline Unchanged

The tank wagon markets on the Atlantic Seaboard have been unchanged, with reports of some local recessions in remote cities of New England. It is difficult to realize that spring is practically here. If spring weather should set in in accordance with seasonal expectation, it might bring a marked change for the better in the gasoline situation.

One unfavorable factor in the tank car gasoline situation, if current reports can be believed, is that there was an oversupply of tank car gasoline shipped to Florida, and that some of this could not find a market there and has been shipped northward and placed on the market at recessions. Most of this is reported to have found its way to Baltimore and Philadelphia.

The kerosene market continues to display a firm tone, in sympathy with furnace oil, the demand for which is steadily increasing. Diesel oil is firm at $2.30 a barrel and bunker fuel oil is also firm. Heavy receipts of fuel oil by water at Atlantic ports are operating against an upturn in prices of this product here.

Lubricants Dull

The lubricating oil market continues on an even keel, with only small price changes: 212 viscosity No. 5½ red oil was advanced ½ cent to 11½ cents, in bulk.

Demand for cylinder stocks is below expectations and prices tend lower. Industrial demand for these oils is dull. Export requirements, however, are holding up very well, and are supporting the market.

Paraffin wax continues unchanged. Transactions were reported fractionally below list prices.

The petrolatum market is unchanged, although the tendency is a little stronger.

Export Market

The oil export market is firm. Shipments are holding up well. Lubricating oils and wax are the principal features, being exported in fairly large quantities.

Exports of paraffin wax during the past week aggregated 3,520,870 pounds, of which 2,326,720 pounds represented refined, and 1,194,150 pounds crude.

Exports of lubricating oils in cases were exceptionally large. One consignment of more than 12,000 cases went to Argentina.

A bulk shipment of fuel oil was made to the Dominican Republic, aggregating 1,258,500 gallons.

Another shipment of importance was of 1,142,550 pounds of asphalt, destined for Scotland.

The following table shows principal export of petroleum and petroleum products from New York during the last three weeks (figures in gallons unless otherwise noted in parentheses):

	Week Ened		
Gasoline:	Mar. 3	Feb. 24	Feb. 17
Bulk	2,051,631	.....	.....
Cases	1,477,580	1,902,880	1,943,970
Kerosene:			
Bulk	2,468,739	.....	.....
Cases	1,223,530	1,015,460	1,486,740
Fuel oil:			
Bulk	1,258,500	.....	.....
Lubricating oil:			
Bulk	1,728,806	.....	.....
Barrels	827,100	563,150	1,669,350
Cases	245,560	58,110	84,970
Paraffin wax:			
Bags (lbs.)	2,326,720	1,204,720	1,628,880
Bbls. (lbs.)	1,194,150	.....	.....
Petroleum asphalt:			
Bbls. (lbs.)	1,142,550	.....	.....
Crude oil:			
Barrels	420,900	.....	.....

The foregoing shipments include only exports in lots of 500 bbls., 1,000 cases, or more.

Tanker Charter Market

Rates for oil tankers continue firm, but business appears to be slackening somewhat.

Recent fixtures include.:

Tanker Invergarry (Br.), 4,217 tons net, Venezuela to north of Hatteras, March loading, rate unnamed.

Tanker Pennsylvania Sun (Am.), 102,000 bbls., Gulf to north of Hatteras, 37 cents, March loading.

Tanker Lucigen (Br.), 3,173 tons net, Gulf to two ports of the French Atlantic, 28s. 6d., April loading.

Estimated receipts of crude and refined oil at Atlantic Coast ports for the week ended March 3 were 492,000 bbls. daily, compared with 576,000 bbls. for the week ended February 27, and 480,000 bbls. the week ended February 20.

Receipts from the Gulf Coast dropped off materially. Imports, however, held up unusually well. There seemed to be a rush of oil from Mexico to Atlantic ports. Total imports averaged 178,000 bbls., of which 167,000 bbls. were from Mexico and 11,000 from South America.

Receipts from the Pacific Coast fell off somewhat, averaging only 44,000 bbls. daily, against 74,000 bbls. the preceding week.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks; also monthly record for the last 12 months (figures in barrels):

	Week Ended		
	Mar. 3	Feb. 24	Feb. 17
Gulf Coast	270,000	316,000	324,000
Pacific Coast	44,000	74,000	66,000
Imports	178,000	186,000	90,000
Total	492,000	576,000	480,000

Daily Averages by Months

1926:	Gulf	Pacific	Imports	Total
February	327,000	76,000	124,000	527,000
January	279,000	59,000	96,000	434,000
1925:				
December	298,000	56,000	103,000	457,000
November	259,000	36,000	92,000	387,000
October	249,000	36,000	102,000	387,000
September	306,000	66,000	76,000	448,000
August	291,000	54,000	90,000	435,000
July	391,000	63,000	107,000	561,000
June	379.00	66,000	118,000	563,000
May	312,000	81,000	145,000	538,000
April	353,000	78,000	101,000	532,000
March	273,000	82,000	135,000	490,000

The foregoing estimates are based upon the carrying capacity of incoming oil-laden tankers.

SPANISH DUTY ON OIL

A Spanish decree, effective February 21, provided that all petroleum, except lubricating oil, imported into Spain is now dutiable under minimum rates of duty, irrespective of whether or not it comes from a country having a commercial treaty with Spain.

CLASSIFIED WANTS

PATENT ATTORNEYS

REGISTERED PATENT ATTORNEYS
United States and Canada.
Before disclosing your invention to anyone send for blank form.
Evidence of Conception
Bulletin "How to Establish Your Rights" and complete information free.
LANCASTER AND ALLWINE
240 Ouray Bldg., Washington, D. C.

PATENTS

PATENT-SENSE — Valuable book (free) for inventors seeking largest deserved profits. References include prominent oil men. Write Lacey & Lacey, 718 F. St., Washington, D. C. Established 1869

WANTED

WANTED — Reliable individual or company drill test on small block acreage located Manhattan Beach, California, one-half mile north production and one-half mile south Julian well drilling. Will give three-quarters undivided interest for well. Leases carry one-sixth royalty. Write or wire C. G. Van Arsdale, 1168 Elizabeth St., Pasadena, Calif.

WANTED — Some one to drill well. Leases free for drilling contract. Write R. E. Dowdy, Trent, Tex.

WANTED—Drilling contract, deep or shallow. What have you? E. V. Hansford, Texas Hotel, Fort Worth, Tex.

WANTED DRILLING PROPOSITIONS
Will drill test well on well located acreage with good geology. Submit with full particulars to Steiner Oil Co., 347 Harvey Snider Bldg., Wichita Falls, Tex.

WANT producing royalties and settled production Oklahoma. Give full particulars first letter. Also consider drilling blocks good geology. No brokers. Write P. O. Box 1382, Oklahoma City, Okla.

WANTED—Producing royalties Oklahoma and Kansas. Give full details. P. O. Box 502, Independence, Kans.

Holmes-Manley Process Is Described

Claimed Gasoline Can Be Made at Less Than Two Cents Per Gallon Over the Cost of Charging Stock

By R. C. Holmes*
Vice President The Texas Co.

While the Attorney-General of the United States is pursuing his suit against a large group of the oil refiners because of the actions of some of the owners of cracking patents and equipment in settling their differences and proceedings with the business of converting gas oil and fuel oil (for which coal can, when necessary, be substituted) into gasoline, and some of the states are about to exterminate some of the companies by taxation, the President's Oil Conservation Board continues its study and deliberations in attempting to determine how to conserve oil resources, improve and secure better and more economical conditions and operations in the industry, and are apparently inclined to give constructive aid where possible.

Probably no industry in the United States is more highly competitive than the oil business. In addition to the indeterminable number of producers, there are upwards of 3,000 jobbers and marketers of petroleum products and, according to Government reports, over 500 companies manufacturing petroleum products. It can properly be assumed that the management of most of these are fairly capable and are desirous of securing the best commercial and economical results, as is the case generally with other established American industries.

Highly Competitive

None of these companies or individual interests is likely to give to the others, without fair compensation, that which they have acquired, either by development or purchase, and it is not to be assumed that any expect developed processes to be turned over to them gratis any more than that it is expected that a company be given its crude oil requirements without compensation.

Most of the units of the industry that are successful or deserving of success are constantly, both of necessity and as good business policy, directing their efforts to the end of improving processes and practices, whether in producing, transportation, manufacturing or marketing.

Gasoline was in little demand and of little value until the use of the gasoline stove became general. There was no need or demand for more than the natural yields from the crude oil until the advent of the automobile with the internal combustion engine. With this development under way, it became evident that a substitute for gasoline or a more effective method of converting some of the less valuable fractions of petroleum into gasoline, would be needed to fill the increasing demands. The Texas Co. was early among those actively carrying on research and development work to this end.

Coincident with the development work, the cost of equipment, cost of operation and patent protection have all had due consideration and attention.

Cracking Installations

Because of the serious operating difficulties resulting from the formation of carbon in pressure cracking units, special efforts have been made, first, to prevent excessive accumulation of carbon on the heated surface of the equipment, and, second, to devise and design equipment which would effect the decomposition with a minimum amount of carbon formation and damage to the equipment by excessive temperatures.

No refinery installations can be so productive of heavy losses or of large profits as cracking installations. Almost any other equipment can be economically used for varying conditions of oil refining, but cracking equipment is inevitably expensive and suitable for the one purpose only. To justify the investment expenditure, it must be productive of satisfactory yields of good quality gasoline and at satisfactory costs. To accomplish the latter, it must be capable of almost continuous operation.

A cracking unit is not an economical gas or coke plant, therefore, it is highly desirable that the design of the equipment and method of operating be such as to produce not only the maximum yield of gasoline but also the remainder of the products, so far as possible, in liquid and merchantable form. Refinery coke of the character that comes from any pressure still operation, as practically every refiner knows, is not a very readily marketable product, nor a product that ordinarily can be economically consumed as fuel in the refinery as compared with fuel oil. If stored in any considerable quantity it is very difficult to prevent spontaneous combustion and the entire destruction of the accumulation. If there are any places where petroleum coke is marketable at greater profit than fuel oil, thereby justifying its production, a better grade can be made at less cost in the regular coke still construction without pressure.

The Holmes-Manley Process

In the Holmes-Manley process of The Texas Co. the desired results, we believe, are accomplished in a most satisfactory degree. In any event, the proof of a process is in the performance.

The Holmes-Manley apparatus most generally in use comprises a pre-heater coil, of the series type, in which the oil is raised to a full cracking temperature; four vertical stills, into which the oil discharges; a bubble tower type of dephlegmator, which receives the vapor from the stills; a reflux condenser, to which the vapors pass from the top of the bubble tower; a water cooled condenser, which receives vapors from the reflux condenser; a surge pump, or jet pump, which returns the clean, heavy condensate from the bottom of the bubble tower and forces it into the stills through a pre-heating coil; expansion drums, into which the bottoms, or residue, from the stills are drawn and distilled largely by contained heat; and a condenser coil for condensing the vapors from the expansion drums.

The oil traverses the heating coil so rapidly that while it is heated to full cracking temperature—approximately 800 degrees Fahrenheit (not high enough, however, to damage the coil)—there is no substantial decomposition of the oil in the coil, and hence carbon trouble here is avoided.

Oil is maintained at an approximately even level in the vertical stills, which are set in a furnace with the ends projecting above and below the furnace, and heat is applied to the side walls, within the furnace.

Kept Free of Carbon

Scrapers are mounted on vertical shafts in each still and are rotated during the operation, thus preventing the accumulation of carbon on the heated surfaces. Any carbon which is formed tends to gravitate to the cooler bottom space, below the heated zone.

The oil in the still is equalized by liquid interconnections, just above the furnace at the point where it is desired to maintain the oil level, the vapor being taken off the stills as fast as formed and led directly to the bubble tower.

Comparatively low furnace temperature is maintained around the stills as only a moderate heat is necessarily applied at this point, most of the heat being supplied to the oil in the coil. The oil is maintained in the stills to a slightly lower temperature than at the exit of the coil, cracking being carried on in the stills at relatively low temperature (approximately 775 degrees Fahrenheit). A comparatively long time element is obtained, as well as a better and more complete conversion effected by the use of four stills instead of one, and with the plurality of stills large capacity secured in small units.

Thus, ideal conditions are maintained in the coil, where the greater heat is applied without substantial cracking, and cracking effected in the stills where a cracking temperature is merely maintained. The operation may be epitomized by saying that the oil is heated in the coil without cracking and is cracked in the still without heating, the temperature merely being maintained in the latter.

Clean Circulation

There is another principle involved in the process which may be determined "clean circulation." It is accomplished by the hot cyclic return of the back trap from the bottom of the bubble tower to the pre-heating coil, none of the undistilled residue being permitted to return to the coil where the high temperature is applied.

The result of the Holmes-Manley closely regulated operation is to produce gasoline of unexcelled quality directly from the pressure still without re-running; the residue from the expansion drums being a low gravity, merchantable liquid fuel, and the total carbon produced in the system being extremely small, the formation of coke and carbon and fixed gases being, as far as possible, avoided.

How well this result has been accomplished is well illustrated by the fact that commercial runs have, over long periods of time, exceeded on the average more than 15,000 bbls. each of the fresh charge through the process, and some of these units have continued in uninterrupted operation for over 60 days. The longest continuous run was for 63 days in 1923, in one of the older units, with a total charge of 86,424 bbls. of cold, or fresh stock, the details of which are as follows:

West Tulsa Works—Battery 3—Run 36
From 6:00 a. m. 10-28-23 to 8 p. m. 12-30-23

Charging Stock—	Bbls.	Pct.
Fresh gas oil	44,457	51.44
Cycle gas oil	41,967	48.56
Total	86,424	100.00
Yield—		
Naphtha distillate	32,387	37.48
Pressure bottoms	51,491	59.58
Wet gas—4,753,320 cu. ft. (3,159 ft. per bbl.)	1,505	01.74
Dry gas—11,031,276 cu. ft. (4,702 ft. per bbl.)	2,346	02.71
Coke—25,110 lbs. 305 lbs. per bbl.	82	00.09
Total	87,811	101.60
Gain	1,387	01.60
Total charge	86,424	100.00

Under pressure, 1.526 hours.
Rate charged per hour. 56.63 bbls.
Average operating pressure, 240 pounds.
Total fuel consumed, 5.45 bbls. per 100 bbls. charged.

Tests of Naphtha Produced

Gravity	60.5
Initial	84
20%	189
50%	279
90%	394
End point	414

Texas Has 79 Units

With the completion of the last units during the latter part of 1925, this company has in its own plants a total of 79 units, the first 24 of which, built in 1920, are rated at about 20,000 bbls. per month charging capacity; the balance from 30,000 to 36,000 bbls. per month each.

During the year 1925, 20,910,497 bbls. of gas oil was charged through these units with a production of 8,235,955 bbls. of gasoline, equal to 39.39 per cent of total charge and 66.11 per cent of fresh, or virgin gas oil. The total charge up to January 1, 1926, exclusive of operations prior to 1920, amounted to 67,639,538 bbls.

The new units that we are now installing are of such construction as to permit of a wider pressure range, varying it to meet the exact requirements of each particular charging stock, and a considerably better performance than the average reported above is possible. It is conservatively estimated that these new units, on gas oils or similar distillates from average Mid-Continent crude running, will average a charging capacity of 36,000 bbls. per month with yields and tests approximately as follows:

Charging stock—	Bbls.	Pct.
Fresh gas oil	22,500	62.50
*Cycle gas oil	13,500	37.50
Total	36,000	100.00
Pressure still yield—		
Condensate	270	00.75
Naphtha distillate	16,200	45.00
Total	16,470	45.75
*Cycle gas oil	13,500	37.50
Cycle fuel oil	4,500	12.50
Fixed gas—8,339 M. cu. ft.	1,715	04.76
Coke—56,160 lbs.	180	00.50
Total	36,365	101.01
Gain	365	01.01
Total charge	36,000	100.00
Treating yield—		
Gasoline	16,223	98.50
Loss	247	01.50
Total	16,470	100.00

Finished yield—	Bbls.	Pct. Based on Totl.Chg.	Pct. Based on Fresh Gas Oil
Gasoline	16,223	45.06	72.10
Cycle fuel oil	4,500	12.50	20.00
Fixed gas— 8,339 M. cu. ft.	1,715	04.76	07.62
Coke—56,160 lbs.	180	00.50	00.80
Total	22,618	62.82	100.52
Gain	118	00.32	00.52
Fresh gas oil	22,500	62.50	100.00
Cycle gas oil	13,500	37.50	
Total charge	36,000	100.00	

*NOTE—Cycle gas oil is the product obtained from the redistillation of pressure still bottoms.

Tests—Finished Gasoline

Gravity—Baume	60.5
Color	Water white
Initial boiling point	90
20%	180
50%	275
90%	380
End point	400
Sulphur	Less 1-10 of 1%
Corrison	Good
Doctor	Negative
Heat reaction	56
Iodine value	87
Acid absorption	11

Tests—Cycle Fuel Oil

Gravity—Baume	5.0
Flash—Clev. Open Cup	225
Fire—Clev. Open Cup	290
Viscosity—Furol @ 122° F.	70
Free carbon	0.4%

Cost 2 Cents a Gallon

Operating in this manner, exclusive of royalty, gasoline can be made at less than 2 cents per gallon over and above the cost or value of the charging stock, the operating costs in this including not only the plant costs but all general overhead and all other charges properly applicable to the operation, whether a plant by itself or a part of a general refinery installation.

Some of the distinct advantages of the Holmes-Manley process are as follows:

1. The large throughput in comparatively small units, the contents of which, including stills, pre-heaters, exchangers, condensers, etc., is only about 450 bbls.

2. The large percentage of liquid yield with minimum amount of carbon

*Written discussion prepared for Refining Symposium, Petroleum Division, American Institute of Mining and Metallurgical Engineers.

and minimum amount of fixed gases.

3. The satisfactory yield and high quality of naphtha produced, which does not require redistilling and requires only chemical treatment to make it fully meet all requirements of the consuming trade.

4. The generally lower temperature operation and the very satisfactory temperature regulation possible, which avoids overheating at any point in the equipment, and as consequence, a sweeter, better grade of gasoline, with better distillation and higher gravity, is produced and, as stated above, the minimum of carbon and of fixed gases.

5. The percentage of time which equipment can be kept in operation. It is estimated that our latest type units can be very easily kept under pressure an average of about 90 per cent of the time.

6. As the equipment is now designed and operated, it produces gasoline, cycle gas oil, and what we term cycle fuel oil, and while the yield of this fuel oil is small and the gravity low, the quality is good, the viscocity low and is readily consumed in the refinery or salable for use by other industries as steam fuel.

7. Color: Water white.

The trade is fast recognizing the distinct advantages of these properly made cracked gasolines over the straight-run gasolines, because—

1. Of the generally higher percentage of lighter and more volatile fractions.
2. Of the better starting qualities, and
3. Of the non-detonating (anti-knock) qualities.

OKLAHOMA

(Continued from Page 38)

Sand Springs Home's No. 1 Daniels, CSL SE NW NE, Section 11-22-12, is drilling at 700 feet. Griffin Producing Co. has a machine rigged up for No. 2 Spoon, NW cor. NE NE, Section 1-21-12. Moore and others have completed a gas well in No. 1-A, CEL SE NE, Section 36-21-13. Sand was 872-885 feet, and the well is shut in with 350,000 feet of gas; No. 1, CWL NW SE NW, Section 31-21-14, had the Bartlesville sand 872-890 feet, with 300,000 feet of gas and is completed. Mayfield Drilling Co.'s No. 1, SW cor. NW, Section 32-21-14, is dry and abandoned at 920 feet. J. W. Kuhns has completed a gas well in No. 2 Nichols, C S half NW SE, Section 3-20-14. Sand was 1,589-1,608 feet, and the well is shut in with 3,000,000 feet of gas.

In the Jenks region, Art Shanless and others' No. 1-A, NW cor. SE NE, Section 17-18-13, had sand 1,598-1,633 feet, and is estimated at 5 bbls. after a shot of 100 quarts. Green and others' No. 4, NW cor. NE NW, Section 24-18-13, had sand 1,553-62 feet and is good for 10 bbls. after a shot of 20 quarts; No. 1, NE cor. NW SW, Section 16-17-14, is shut down at 1,620 feet.

South of Sand Springs, J. W. McCulloch is rigging up No. 7 Inchoe, CSL NE NE, Section 34-19-11.

Kay County

The Carter Oil Co.'s No. 4, NW cor. NE NE, Section 21-25-2w, in the Thomas Pool, had sand 4,140-4,200 feet, and pumped 45 bbls. oil and 10 bbls. water. In Tonkawa, The Texas Co.'s No. 2, SW cor. NE, Section 28-25-1w, is drilling at 525 feet. Wentz Oil Corp. has a dry hole in No. 19, SE cor. SW, Section 30-24-1w, at 4,226 feet.

North of Ponca City, the Mississippi Valley Oil Co.'s No. 1, NE cor. NE, Section 22-27-2, is dry and abandoned at 3,997 feet.

Stephens County

The Carter Oil Co. and Knox Petroleum Co. are building the rig for No. 2 Goza, NE cor. NW SE, Section 2-2-5w, and the rig is up for No. 1 Hickman, NW cor. NE SE, Section 2-2-5w; and the rig is on the ground for No. 6 Garvin, CNL NE NE NW, Section 2-2-5w, and also for No. 2 Knox, NE cor. NW NW, Section 2-2-5w. The Carter Oil Co.'s No. 1 Tanhevah, CNL NW NE SE, Section 30-2-9w, is drilling at 2,217 feet. Texhoma Oil Co.'s No. 1, SE cor. SW, Section 36-2-9w, is drilling at 100 feet. Douthitt and others have completed No. 1, SE cor. NE NE, Section 26-1-9w, in sand 2,266-76 feet. It is estimated at 40 bbls.

Grady County

W. F. Traves has a rotary rig in for No. 1 Williams, NE cor. SW SE, Section 10-9-6w. Mandeville and others are trying to shut off water in the bottom of the hole in No. 1, SE cor. SE, Section 15-5-8w. Sand was 2,128-2,397 feet, and the well is making 42,000,000 feet of gas. Prairie Oil & Gas Co. has a rotary rig up for No. 3 Tooler, CSL NE SE NE, Section 22-5-8w. Briscoe & Hall are drilling at 1,000 feet in No. 1, NE cor. NW NE, Section 27-5-8w. Magnolia Petroleum Co.'s No. 5, C SW NE, Section 35-5-8w, is drilling at 150 feet. Skelly Oil Co.'s No. 2, CEL SW, Section 35-5-8w, is drilling at 350 feet. Magnolia Petroleum Co.'s No. 7, SW cor. NE SE, Section 3-5-9w, had sand 2,375-2,405 feet, and pumped 13 bbls. Day Oil Co. is drilling at 750 feet in No. 1, SE cor. NE, Section 28-3-9w. Sinclair Oil & Gas Co. and others have a rig on the ground for No. 1 Dutton. The Carter Oil Co. has completed No. 2, CNL NW SE SW, Section 35-3-5w. Sand was 1,489-1,509 feet, and the well made 225 bbls. on the swab. Garvin Drilling Co.'s No. 2, CNL NE SE SW, Section 35-3-5w, had sand 1,501-11 feet, and is estimated at 100 bbls. on the pump.

Garfield County

Roxana Petroleum Corp. has spudded No. 1, SW cor. NE, Section 29-23-4w. Penders Oil Co.'s No. 1, CWL NW SW SW, Section 4-21-3w, had sand 2,266-70 feet, and swabbed 18 bbls. oil. It was drilled deeper and showed water with no increase in production; the rig is on the ground for No. 2 Crane, NE cor. SE SW, Section 5-21-3w; and the rig is on the ground for No. 1 Bowers, NW cor. NW, Section 9-21-3w.

In the Garber Field, the Roxana Petroleum Corp. has built the rig for No. 5-H Schroeder, NW cor. SW, Section 18-22-3w.

Imo Oil Co. is drilling at 775 feet in No. 6 Bubahm, CEL NW SW, Section 31-22-3w. Marland Oil Co. is rigging up No. 1 Goomis, NE cor. SE, Section 9-20-4w. Mid-Continent Petroleum Corp.'s No. 1 School Land, NW cor. SE, Section 16-20-4w, is rigged up.

Pontotoc County

Jack Lloyd and others have completed No. 1, SE cor. NE NW, Section 6-3-7, for 5 bbls. from sand 1,118-46 feet.

Hughes County

Prairie Oil & Gas Co. has built the rig for No. 7, SW cor. SE NW, Section 14-8-7. T. B. Slick is drilling at 350 feet in No. 3 NE cor. NW SW, Section 14-8-7, and No. 4 Jackson, NW cor. NE SW, Section 14-8-7, is a rig. Prairie Oil & Gas Co. has a rig on the ground for No. 3 Long, SW cor. NE, Section 32-8-8.

Independent Oil & Gas Co. and Amerada Petroleum Corp. have a failure in No. 1, SE cor. NE SW, Section 18-8-10, which is dry and abandoned at 3,530 feet.

In the south end of the county, the Burke-Greis Oil Co. has a dry hole in No. 1, SE cor. NE NE, Section 30-5-10, which is abandoned at 3,507 feet.

Seminole County

Tidal-Osage Oil Co.'s No. 1, NE cor. NW NW, Section 15-9-6, is drilling at 200 feet. Independent Oil & Gas Co. and Holmes & Jarvis are drilling at 250 feet in No. 2, NE cor. SE, Section 7-9-8. Magnolia Petroleum Co.'s No. 1 SW cor. NW, Section 14-8-7, had sand 3,178-85 feet, and made 687 bbls. Dixie Oil Co.'s No. 3, NE cor. NW SE, Section 25-8-7, is drilling at 1,350 feet. Prairie Oil & Gas Co.'s No. 1-A, SE cor. NE, Section 25-8-7, is drilling at 700 feet. W. R. Ramsey will drill deeper in No. 1 Douglas, SW cor. SE SE, Section 30-8-8. Present depth is 3,270 feet. Kingwood Oil Co. and others' No. 1, NE cor. SW SE, Section 29-8-9, is still flowing 375 bbls. from sand 3,413-29 feet. Curtis Bryan and others' No. 1, SE cor. SE, Section 4-7-6, was shot with 10 quarts and is swabbing 70 bbls. from sand 2,752-61 feet. Magnolia Petroleum Co.'s No. 1 Street, SW cor. NE, Section 22-7-7, is rigged up. Dixie Oil Co. is cleaning out No. 1 Knight, NE cor. NW NE, Section 6-7-8, to drill down to the Wilcox sand. Present depth of the well is 3,225 feet. Homa-Okla Oil Co. is rigging up to drill deeper in No. 1 Davis, SW cor. NE NE, Section 6-7-8. Magnolia Petroleum Co. has set the surface casing at 50 feet in No. 1, NW cor. NE NE, Section 8-7-8.

GASOLINE DEMAND LIGHT IN NORTH TEXAS AREA

FORT WORTH, Tex., Mar. 8.—With a softening of the kerosene and fuel oil markets, the condition of refined oils in the North Texas is anything but favorable to the refiner. There has been practically no buying throughout the whole of the past week and nothing to indicate that the demand for refined products will show any appreciable increase during the coming week.

Refiners have about come to the conclusion, apparently, that they are going to be forced to content themselves with the present situation for a few weeks yet, at least until the appearance of a more favorable gasoline weather. However, they are hopeful for favorable weather within a very short time. Then they believe that far better prices will prevail. They point out that the season for a big demand in fuels is rapidly coming to a close and that the gasoline market must soon show steady improvement.

The market on export gasoline is somewhat stagnant, though there has been a fairly steady price maintained for the past few weeks. Quotations on this product now range from 12¼ to 12½ cents per gallon with only very small quantities of the product moving. United States Motor Oil is also quiet with quotations ranging from 10 cents to 10¼ cents per gallon in the Wichita Falls territory.

The kerosene market is considerably softer than it has been in past weeks. Bottom quotations on 41-43 water white kerosene being 6¾ cents per gallon and some few sales being quoted at 6⅞ cents per gallon. Prime white grade run from 6½ to 6⅝ cents per gallon.

There is also some weakness showing up in the fuel oil market. Refiners in the Burkburnett district have been getting as low as $1.17½ a barrel for fuel during the past week, though probably most of the stuff that has been sold has moved at a price of $1.20 per barrel. This softening of the fuel market is generally regarded by refiners as the first indication that the big fuel oil season is rapidly approaching a close.

Whether or not there are grounds for the bellief, refiners generally feel that there may soon be another advance in the price of crude oil. At least the position of the crude market appears strong and the customary premiums above the posted price are being paid by independent refiners in this district.

PENNSYLVANIA MARKET WEAK, DUE TO WEATHER

OIL CITY, Pa., Mar. 6.—Nothing startling developed in the refined market in Pennsylvania during the week.

Gasoline was weak and there was little of this product moving. Consumption was at a low ebb on account of the extremely cold weather. Kerosense was strong with a fairly good demand. Cylinder stocks were weaker. Neutrals were fairly strong. Wax holding its own. Fuel oil is very scarce and firm. Naphtha also weak.

ROCKY MOUNTAIN FIELDS

(Continued from Page 31)

Since the Midwest Refining Co. abandoned the Power River wildcat and now with the abandonment of the Arminto well by the Texas Production Co., the only wildcat drilling in western Natrona County is that of the Continental Oil Co. and the Consolidated Royalty Oil Co. on Section 15-34-87, about 15 miles south of Waltman. This well is drilling through the Tertiary overlay and expects to find oil in the Frontier sands of the Cretaceous. The hole is at 3,660 feet.

The lease and wells of the California Co. in the Poison Spider Field will be sold by the receivers at Casper on March 17. The property lies about 35 miles west of Casper on the east side of the Poison Spider Field and consists of 540 acres on which are four wells. The production is 140 bbls. per day of black oil and the wells are connected to the Poison Spider pipe line to Casper.

A company called the Big Four Oil Co. was formed, mainly of California people, and some leases taken in the Poison Spider Field in 1917. A camp and much equipment was placed on the tracts, but the heavy cost is reported to have used up the finances and after sending Lee Bagby to examine conditions, the Big Four was reorganized and taken over by the California Oil Co. under Bagby's direction. Four wells were drilled that found black oil production, but the cost is said to have prevented the operators from realizing anything on their investment.

The Midwest Refining Co. completed seven new wells in the Salt Creek Field the past week. The big Lakota gusher on Section 2-39-79 has been noted above and another Lakota well that started off at 2,000 bbls. on Section 26-40-79 at 2,415 feet was drilled in by the Wyoming Associated Oil Co.

The Wyoming Associated Oil Co. completed a first sand well on Section 35-40-79 that will make 15 bbls at 1,050 feet, and one on Section 2-38-78 at 1,760 feet that will make a small pumper. It also completed a small producer on Section 24-40-79 at 1,267 feet.

The Midwest Oil Co. has a small producer on Section 25-40-79 at 1,143 feet and a 25-bbl. second Wall Creek well on Section 11-40-79 at 2,425 feet.

The Standard Oil Co. of Indiana sent out 10 trains of gasoline from Casper during February for export to European ports. The trains were billed through to Baton Rouge, La.

The Cane Creek well, in the Moab district of Utah, has swedged the collapsed 10-inch casing and is preparing to run 8-inch to the bottom of the hole at 2,028 feet. As soon as the 8-inch is set and cemented, the well will be drilled in and the anxious operators will then know what they can expect.

The royalty oil from state owned lands in the Salt Creek Field will be sold at Cheyenne on March 31. The Continental Oil Co. bid in the production at the last sale and has been taking the crude for two years, as this company's contract expires this year, the State of Wyoming is asking bids for the oil. Bids must be accompanied by the regular filing fee of $1 and a certified check for $25,000 as evidence of good faith. No bid will be accepted for less than $1.50 per barrel and the production is estimated conservatively at 50,000 bbls. per month. During the past year the production averaged 66,970 bbls. per month. The posted price of either Salt Creek or Mid-Continent is made the basis of the bid.

The pipe line that is to carry gas from the Fort Collins Field in Colorado to Cheyenne, Wyo., will not be ready to serve Cheyenne with gas before the middle of June or the first of July.

Runs From the Fields

Salt Creek	55,050
Teapot	1,130
Big Muddy	3,370
Grass Creek	2,750
Elk Basin	650
Greybull	15
LaBarge	200
Rock River	3,100
Lance Creek	2,210
Poison Spider	310
Osage	350
Hamilton Dome	1,040
Lander	210
Byron	15
Lost Soldier	4,240
Simpson Ridge	270
Ferris	50
Cat Creek	3,030
Sunburst	8,980
Lake Basin	110
Florence	400
Moffat	3,480
Tow Creek	110
Fort Collins	2,700
Iles Dome	115
Boulder	25
Rangeley	100
Hogback	500
Rattlesnake	40
Artesia	3,310
Total	97,860

REFINING AND MARKETING

W. H. TRIMBLE NAMED DIRECTOR N. P. M. A.

W. H. Trimble of the Western Oil Refining Co., of Indianapolis, Ind., and president of the Indiana Independent Petroleum Marketers Association, has been appointed a director of the National Petroleum Marketers Association to fill out the unexpired term of Frank Enz, resigned when his company at Evansville, Ind., was purchased by the Marland interests.

The Western Oil Refining Co., is one of the largest distributors of gasoline and all petroleum products in the Middle West. It has one Indianapolis station that is rated by some as the largest seller of gasoline of any one station in the West. Numerous stations are operated in Indianapolis and surrounding towns, with a model bulk and compounding plant.

CALIFORNIA GASOLINE SALES INCREASE, 1925

Gasoline sales to motorists in California during 1925 increased 82,093,573 gallons over 1924, according to figures compiled by the State Motor Vehicle Department. Gasoline sales during 1925 totaled 801,659,747 gallons compared to 719,566,174 gallons in 1924.

These figures were based on revenue received by the State from gasoline taxes, the receipts in 1925 totaling $16,033,194. This was an increase of $1,641,871 over 1924. Approximately 90 per cent of the total sales were made by the nine largest companies, the Standard Oil Co. of California, the Shell Co., the Richfield Oil Co., the Union Oil Co., the Associated Oil Co., the General Petroleum Co., the Pan American Petroleum Co., the Ventura Oil Co. and Marine Oil Co.

TULSA RATE HEARING IS SET FOR MARCH 12

Commissioner Koch of the Interstate Commerce Commission who has been hearing evidence in the Galveston and New Orleans oil rate differential cases, will conduct a hearing in Tulsa on March 12. The hearing, which was to have been held March 9, will open at 10 o'clock in the Mayo Hotel. Mr. Koch comes from Fort Worth, Tex., where he has been working on the case since March 1.

The case involves proposed changes in the present differentials existing between Louisiana and Texas Gulf ports on freight for export movement. The Tulsa hearing is expected to be devoted to testimony of oil companies.

CITY LIMITS STATIONS

Under a new ordiance passed at Quanah, Tex, all public garages and filling stations hereafter built in the corporate limits first must obtain a special permit from the City Council instead of only a building permit as previously required. The ordinance was passed following many complaints against building of garages and stations in the residence districts.

PURE OIL CLUBHOUSE

The Pure Oil Co. has nearing completion a handsome new clubhouse for the uses of its employes and their families on the company's Cabin Creek, W. Va., properties. The building is very handsome architecturally and will have room for dances, movies, pool room, kitchen, etc.

FORT DODGE PURCHASE

FORT DODGE, Iowa, Mar. 8.—The Paramount Oil Co. of Fort Dodge, Iowa, has purchased at a receiver's sale properties of the Federal Oil Co. The deal includes several service stations and storage capacity of 100,000 gallons.

AMITY RENEWS CONTRACT

The Amity Gasoline Co. of Bartlesville has renewed its contract with Chestnut & Smith Corp., of Tulsa to handle its natural gasoline production this year. The Amity company has five plants, two at Watova and one each at Dewey, Mounds and Shamrock.

SUPERIOR TO HANDLE LECCO PLANT OUTPUT

BOWLING GREEN, Ky., March 8.—The Petroleum Exploration Co. has contracted with the Superior Oil Corp. for the disposal of the output of its gasoline plant at Lecco. The Superior Oil Corp., will handle the gasoline at its loading rack near Torrent.

The contract solves a problem for the Petroleum Exploration Co. The plant is three miles from a railroad and shipping its production has been difficult. The company now is laying a 1¼-inch line from the plant to the tanks of the Superior Oil Corp.

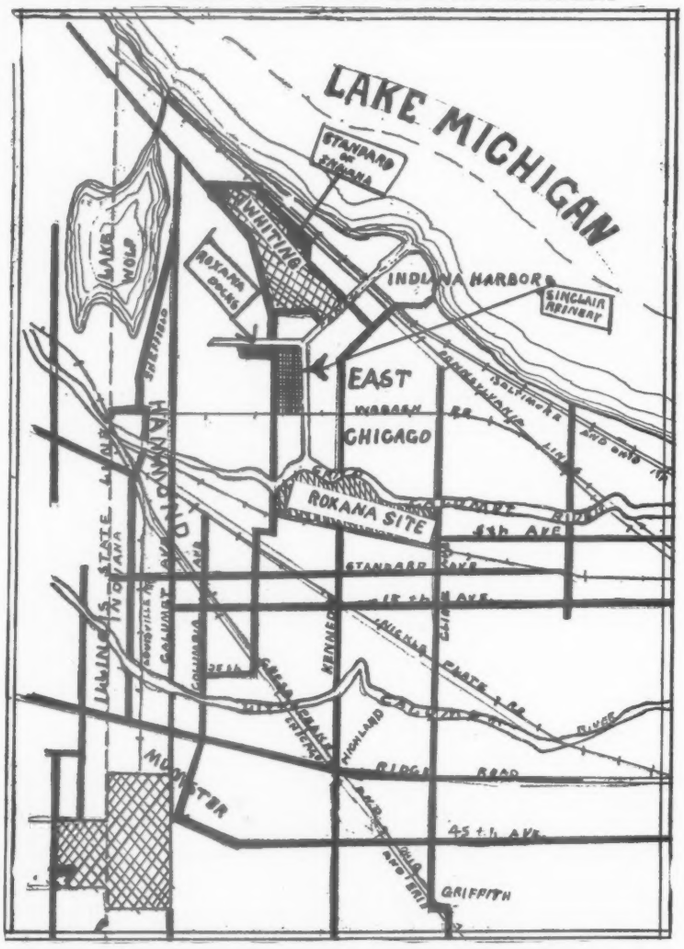
FORT SMITH WAREHOUSE

The Continental Oil Co. has contracted for the erection at Fort Smith, Ark., of a warehouse and two retail filling stations to cost $24,000.

TAX ON KEROSENE

A bill to impose an excise tax of 1 cent a gallon on persons engaged in selling or distributing kerosene has been introduced in the lower house of the Mississippi Legislature.

SITE OF PROPOSED ROXANA CORP. REFINERY



The above map shows the site of the proposed Roxana Petroleum Corp. refinery at East Chicago.

CHICAGO, Mar. 8 — The next definite step toward the construction of the proposed refinery by the Roxana Petroleum Corp. will be taken March 17 when a public hearing will be held on the granting by the city of a permit and franchise to build a pipe line and other mains between the proposed refinery and the ship canal.

Roxana engineers have been in conference with city officials at Hammond regarding laying of a 12-inch water main to connect the proposed site with a water supply. This work will begin as soon as a pipe line franchise is granted by the city of East Chicago and will be completed within 90 days.

In the meantime the engineers have been surveying the proposed site at East Chicago and have been making borings to determine sub-soil conditions for foundations.

In the accompanying map is shown the site of the proposed refinery and its relation to the Standard Oil Co. of Indiana and Sinclair Refining Co. plants. The distance between the Standard Oil Co. and the proposed Roxana plants is approximately 5 miles. The black space to the left of the Sinclair plant is Roxana loading dock.

F. W. BURFORD LEAVES FOR SHREVEPORT, LA.

Election of F. W. Burford, now with the Skelly Oil Co., of Tulsa, as vice president and general manager of the Crystal Oil & Refining Corp., at Shreveport was announced Wednesday. The election will be effective April 1 when Mr. Burford will assume his new duties.

Mr. Burford has been associated with the Skelly Oil Co., in the refining division five years and for the past several years has been in charge of wholesale and retail sales at the Tulsa office. A resident of Oklahoma for 20 years, he has

—Photo by J. L. Rivkin
F. W. Burford

been in direct contact with the oil business for 15 years. Before entering the oil business he attended the law school at the University of Oklahoma at Norman. He also is a graduate of Schattuck school, Faribault, Minn.

Being a member of the Tulsa Club, the University Club of Tulsa and an active member of the publicity committee of the Chamber of Commerce, Mr. Burford has a wide circle of acquaintances.

The Crystal Oil & Refining Corp., with which Mr. Burford goes, is the newly organized Maryland corporation which recently took over the properties of the Caddo Central Oil & Refining Co. It is domiciled in Louisiana with headquarters at Shreveport. It operates two refineries at Shreveport with a total capacity of 10,000 bbls. of crude daily, 80 miles of trunk pipeline, 608 tank cars, and holds 50,000 acres of undeveloped leases in Louisiana. The company also conducts a general marketing business. G. L. Estabrook of Philadelphia is president, and F. W. Garnjost, vice president.

J. R. TRISLER RESIGNS; E. C. PRATOR SUCCESSOR

J. R. Trisler, local manager of the Kettle Creek Refining Co. at El Dorado, Ark., has resigned and will leave March 15 for California where he will enter the real estate business. Mr. Trisler, until the last several months, has been with the Tulsa offices and connected with the Imperial Oil Marketing Co.

Mr. Trisler's place at El Dorado will be filled by E. C. Prator, who has been assistant sales manager of the Imperial Oil Marketing Co. at Tulsa. To fill this vacancy, Mr. Prator withdrew his recent resignation, which he offered to accept a position with the Kendrick Oil Co. He left Tulsa for El Dorado Monday night to take over his new work.

STEEL PLATE REFINERY EQUIPMENT Erected Anywhere

Graver Builds

Tanks
- Welded
- Riveted
- Gas Holders (Riveted, Inside & Outside Welded)
- Structural Supports
- Tower Tanks
- Standpipes
- Any Size Tanks Erected Anywhere

Refinery Equipment

Jenkins Cracking Process

Stacks-Breechings

General Steel Plate Construction

Water Softeners
- Hot Process
- Cold Process
- Zeolite
- Household

Filters—Pressure

Purifying Systems for Swimming Pools

GRAVER Corporation Founded 1857

EAST CHICAGO, INDIANA

NEW YORK Grand Cent. Term. | CHICAGO Steger Building | TULSA Atlas Life Bldg. | HOUSTON West Building

Brief Items for Plant Operators

COOPERATIVE TEST OF ABSORBERS BEING CONDUCTED IN CALIFORNIA

The various producing or manufacturing companies engaged in the production of natural gasoline on the west coast have sanctioned and encouraged the organization of an association of natural gasoline engineers. The first meeting of this association (yet unnamed) held in January, resulted in the election of officers and at this time the engineering departments of 17 major companies of California were represented. Not only are the engineers invited to affiliate with the society, but any one interested in the engineering problems of the industry iselegible and welcome. Paul D. Barton of the United-Richfield-Signal Hill Gasoline Co., organization is president of the association. J. A. Campbell of the Lomeda Gasoline Oil Froth Absorber Co., is vice president. J. S. Watson, of the Shell Co. is secretary.

Through this organization the various natural gasoline manufacturing companies expect to secure much helpful information, and through the cooperative endeavors of their engineers, hope to work out and solve many problems in the handling of gas and the manufacture of gasoline.

The natural gasoline manufacturers have started early in the building and development of their industry to profit by the experience of their numerous individual members, with the result that such rapid strides of developments and improvements have been paralleled by no one other industry.

A new angle of this beneficial cooperative movement is the tendency of the equipment companies furnishing integral parts of gasoline plants or entire systems of recovery to work together on a basis of friendliness, upon experiments and investigations from which the entire structure of the supply industry and their trade may harvest great beneficial information.

One of the most unusual cooperative investigations, wherein the participants are equipment manufacturers, is that under way with the Signal Hill Gasoline Co., which is a part of the United-Richfield organization. This experiment, or work, embraces the comparative operation, or contrasting results of the performance, of four different types and brands of absorbers for gasoline extraction plants.

High upon the crest of Signal Hill, perhaps some 400 feet above the ocean is an absorption gasoline plant—nestled among the many derricks covering the hill, at the end of a long winding road—and just a little difficult to find. Here, for the first time perhaps in the history of the natural gasoline industry are the absorbers of four competing engineering organizations. Eeach of these companies supplied its own type or brand of absorber of its own volition, willingly—the Signal Hill Gasoline Co. building the remainder of the extraction plant.

The idea and method is entirely cooperative and the experiment is being carried on for the benefit of the industry and the manufacturer of the equipment (absorbers). The companies included in the test work are those supplying practically all of the patented absorbers on the west coast.

J. A. Campbell, inventor and patentee of the Campbell Oil Froth Absorber, Long Beach, Calif., is represented. Newton Process Manufacturing Co., Fullerton, Calif., has installed a Newton Absorber. Southwestern Engineering Co., Los Angeles, Calif., has the familiar Southwestern absorber, and the Braun Corp. has installed a Braun absorber.

The test essentially consists of operating the four absorbers under identical conditions as to volume of gas, of circulated oil, rate or velocity of both; temperature and pressure. All the work is to be done on the same natural gas and, as before stated, under the same conditions. Then, further it is likely that each absorber will be subjected to a series of tests to determine the exact conditions under which it operates with the most efficiency and economy, etc., and the results analyzed in detail.

The benefits to be derived from such cooperative investigation are obvious—for it is certain that if the parallel operation of equipment uncovers any difficiencies in any type of absorber, the way will be opened for immediate improvement and correction of whatever is lacking—and thus a new standard of absorber efficiency will be set.

A great deal of interest has been evidenced in the work and the engineers of many companies visit the plant regularly, closely watching the experiments under way. The organization conducting the experiment is giving out no information, naturally, at the present time, for at best, the subject is a delicate one. It is expected, however, that upon the conclusion of the work, certain beneficial information will be presented to the industry.

PURE OIL COMPANY PLANTS

Improvements and additions are being made at three refineries owned by the Pure Oil Co. Additional cracking units are being installed at the Heath, Ohio, plant; new continuous stills are being put in at the Cabin Creek, W. Va., plant and other improvements are under way at Muskogee. Capacities of the Heath and Muskogee plants will be double. The Pure Oil Co. last year spent $2,000,000 on its Marcus Hook refinery and the new plant now is in operation.

NEW GASOLINE PLANTS WILL BE CONSTRUCTED

North Louisiana and Arkansas are to have two new gasoline plants in the near future. Simms Oil Co. in Smackover Field has started work on its new plant in Section 29-15-15, 3 miles northeast of Shreveport, and the Henderson Co. is making a survey for a plant in the Lisbon area and actual construction is to begin soon.

The Henderson Co. is preparing to spend around $200,000 on its plant, which will be constructed so additions can be built to it readily when needed. From 15 to 20 miles of pipe lines will be laid and in addition another line will connect the new plant with the old one in the south field.

EXPLOSION AT BLACKWELL

An explosion at the natural gasoline plant operated at Blackwell, Okla., by Harris and Haun, injured three men and caused considerable damage to the plant. The cause of the explosion has not been determined definitely but one of the reducing tanks was blown through the side of the building. Charles Proctor, one of the injured men, suffered a broken leg.

BROWNWOOD GASOLINE PLANT

Humble Oil & Refining Co. is building a natural gasoline plant in the new Blake oil field in Brown County, 20 miles north of Brownwood in Central West Texas. The plant will cost $250,000, and is expected to be in operation in 60 days.

MEHAN PLANT STARTED

Pure Oil Co. has started operations at its natural gasoline plant No. 14 just completed at Mehan, Okla. The plant is of the absorption type and uses the Newton process, utilizing the rock pressure instead of the compressors. It will handle 16,000,000 feet of gas daily.

AMONG THE TECHNICAL MEN

H. J. Witz, general superintendent of refineries for the Julian Petroleum Corp., Los Angeles, entered the oil business after being employed for a time in railroad work. Born in Warren, Pa., he spent three years with the Pennsylvania Railroad before he decided to enter the oil business.

H. J. Witz

Entering the Mid-Continent he was first employed by the Chelsea Refining Co. When this company was taken over by the Pure Oil Co. he continued with the latter company. In 1919 he was made assistant manager of the western refining division.

In 1922 and 1923 he was engaged in the producing end in the Ranger, Tex., district. In 1923 he became connected with the Rio Grande Oil Co., at El Paso. Later he was transferred to Los Angeles where he had charge of the crude oil purchasing department for the company.

Mr. Witz joined the Julian organization in 1925 in charge of their plant operations.

As general superintendent of refineries for the Julian Petroleum Corp., Mr. Witz has charge of the operation of two California plants. These refineries are located at Hynes and National City. The former has a capacity of 5,000 bbls. daily and the latter 500 bbls.

LATONIA, KY., REFINERY BOUGHT BY PARAGON

TOLEDO, Ohio, March 8.—Purchase of the Petroleum Refining Co., of Latonia, Ky., for a reported consideration of $500,000, and addition of three men to the board of directors, increasing the membership to 10, were announced as the results of the annual meeting of the Paragon Refining Co. stockholders in Cincinnati.

Directors elected are: E. W. Edwards, president of the Edwards Manufacturing Co.; H. W. Edwards, vice president of the Edwards Manufacturing Co.; W. W. Freeman, president of the Union Gas & Electric Co.; Fred A. Geier, president of the Cincinnati Milling Machine Co.; John Ouwake, president of the United States Playing Card Co.; W. Cooper Proctor of Proctor & Gamble Co., and Attorney Charles Sawyer, all of Cincinnati, and Howard I. Shephard, vice president of the Guardian Trust Co., of Cleveland. Two other directors are to be chosen from among the present board of the Petroleum Refining Co.

Following the meeting of the stockholders the directors met and elected these officers: E. W. Edwards, president; H. W. Edwards, vice president; C. J. Leroux, secretary-treasurer, and C. E. Boden, assistant secretary-treasurer.

The president and vice president are at Cincinnati. Leroux and Boden have offices at the Toledo plant. Mr. Shephard, a new director, formerly was a Toledoan.

M. R. Singleton, who has been vice president and general manager for the past two years resigned at the annual meeting.

WILL NOT ABANDON PLANT

FORT WORTH, Tex., Mar. 8.—Although the plant has not been in operation the past three years, the Pierce Petroleum Co. has no intention of abandoning its refinery at Fort Worth. This assurance was made by E. D. Levy, president of the company, while in Fort Worth the past week to attend the convention of the Western Petroleum Refiners Association. Other than this, Mr. Levy did not disclose the company's plans for the refinery.

LUCAS REMODELS PLANT

DALLAS, Tex., Mar. 8.—The Lucas Oil & Refining Co. has started actual work of putting the old Grand Prairie refinery near Dallas in shape for operation. The Lucas Co., headed by B. C. Lucas, only recently purchased the plant after receiving a charter under the Texas laws. The plant will be ready for operation in the near future, Mr. Lucas announced.

NEW BULK PLANTS

Two new bulk distribution plants, one at Philadelphia, Pa., and the other at Marietta, Ohio, will be built by the Pure Oil Co., in the near future. The company will enter the Philadelpha retail business extensively. F. L. Murrill has been appointed assistant district manager for the Philadelphia plant, and A. R. Ward, superintendent.

TO REBUILD OHIO PLANT

The Pure Oil Co., will rebuild and enlarge its distributing plant at Springfield, Ohio. The Springfield and Urbana plants have been combined under the management of C. W. Cartmell.

Interior of Large Modern Foundry Where

HUGHES VALVES

Are Made

Scene Shows Pouring Steel For Body and Bonnett Castings.

HUGHES TOOL COMPANY

Branch Plants
Los Angeles, Calif.
Oklahoma City, Okla.

MAIN OFFICE AND PLANT
HOUSTON, TEXAS

Export Office
New York City, N.Y.

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	Mar. 9		Mar. 2		Feb. 23	
OKLAHOMA (Group 3)—						
50-52 450 end point	.09¼	.09½	.09¼	.09½	.09⅜	.09½
56-58 450 end point	.09⅜	.09⅝	.09½	.09⅝	.09½	.09⅝
58-60 437 end point (U. S. Motor)	.09⅜	.10	.10	.10¼	.10	.10¼
60-62 400 end point	.11⅛	.11¼	.11⅝	.11⅞	.11⅜	.12
64-66 375 end point	.12⅛	.12¼	.12½	.12⅝	.12½	.12⅝
68-70 360 end point	.13	.13¼	.13	.13½	.13	.13½
KANSAS—						
58-60 437 end point (U. S. Motor)	.10	.10¼	.10¼	.10½	.10¼	.10½
NORTH TEXAS—						
48-50 450 end point (Naphtha)	.09	.09⅛	.09	.09¼	.09	.09¼
50-52 450 end point (Naphtha)	.09	.09¼	.09¼	.09⅜	.09¼	.09⅜
56-58 450 end point	.09¼	.09½	.09⅜	.09½	.09⅜	.09½
58-60 437 end point (U. S. Motor)	.09⅜	.10	.09⅞	.10	.09⅞	.10
60-62 400 end point	.11¼	.11⅜	.11⅝	.11⅞	.11⅜	.12
64-66 390 end point	.12	.12¼	.12½	.12⅝	.12½	.12⅝
64-66 375 end point	.12½	.12⅝	.12⅝	.12⅞	.12⅝	.13
68-70 360 end point	.12⅝	.13	.13	.13¼	.13	.13¼
NORTH LOUISIANA—						
56-58 450 end point	.09½	.09¾	.09¾	.10	.09¾	.10
58-60 437 end point (U. S. Motor)	.10	.10¼	.10¼	.10½	.10¼	.10½
60-62 400 end point	.11⅜	.12	.11⅝	.12	.12	.12⅛
64-66 390 end point	.12¼	.12½	.12½	.12⅝	.12⅝	.13
64-66 375 end point	.12½	.12⅝	.12½	.12⅞	.13	.13¼
ARKANSAS—						
58-60 450 end point	.09⅞	.10	.10	.10¼	.10	.10¼
58-60 437 end point (U. S. Motor)	.10¼		.10¼	.10½	.10¼	.10½
64-66 375 end point	.12½	.12¾	.12½	.12¾	.12¾	.13
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (U. S. Motor)	.12⅞	.13	.13	.13¼	.13	.13¼
PENNSYLVANIA—						
52 Naphtha	.11¼	.11½	.11¼	.11½	.11¼	.11½
54 Naphtha	.11½	.11⅝	.11½	.11⅝	.11½	.11⅝
56 Naphtha	.12	.12¼	.12	.12¼	.12	.12¼
58 Naphtha	.12½	.12⅝	.12½	.12⅝	.12½	.12⅝
60 Gasoline	.13¼	.13½	.13¼	.13½	.13¼	.13½
62 Gasoline	.14	.14¼	.14	.14¼	.14	.14¼
64 Gasoline	.14½	.14⅝	.14½	.14⅝	.14½	.14⅝
66 Gasoline	.16¼	.16½	.16¼	.16½	.16¼	.16½
68-70 Gasoline	.19½	.19¾	.19½	.19¾	.19½	.19¾
CALIFORNIA—						
54-58 437 end point (U. S. Motor) domestic	.11	.11½	.11	.11½	.11	.11½
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 end point (Naphtha)	.09¼	.09½	.09¼	.09½	.09½	.09⅝
56-58 450 end point	.09⅝	.09½	.09½	.09⅝	.09¾	
58-60 437 end point (U. S. Motor)	.09⅝	.10	.10	.10¼	.10	.10¼
60-62 400 end point	.11¼	.11½	.11⅝	.11⅞	.11⅜	.12
64-66 375 end point	.12¼	.12⅝	.12½	.12⅝	.12½	.12⅝
68-70 360 end point	.13	.13½	.13	.13½	.13	.13½

*Colorado points.

NATURAL GASOLINE

	Mar. 9		Mar. 2		Feb. 23	
OKLAHOMA (Group 3)—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.09½	.09¾	.09¾		.09¾	.10
Grade A, 72-79.9, 375 end point, rec. 90%	.09½	.09¾	.09¾	.10	.09¾	.10
Grade Double B, 84-92, 375 e.p., rec. 85%	.08¾		.08¾	.09	.08¾	.09
Grade B, 76-83.9, 375 end point, rec. 85%	.08¾		.09		.09	
Grade C, 80-90, 375 end point, rec. 78%	.08½	.08¾	.08⅝	.08¾	.08¼	.08½
NORTH TEXAS—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.09½	.09¾	.09¾	.10	.09¾	.10
Grade A, 72-79.9, 375 end point, rec. 90%	.09½	.09¾	.09¾	.10	.10	
Grade Double B, 84-92, 375 e.p., rec. 85%	.08¾	.09	.09		.09	.09¼
Grade B, 76-83.9, 375 end point, rec. 85%	.08¾	.09	.09		.09	.09¼
Grade C, 80-90, 375 end point, rec. 78%	.08¾		.08¾	.09	.08⅜	.08½
NORTH LOUISIANA—						
Grade A, 72-79.9, 375 end point, rec. 90%	.10¼	.10½	.10½	.10¾	.10½	.10¾
Grade B, 76-83.9, 375 end point, rec. 85%	.10	.10¼	.10		.10	
Grade C, 80-90, 375 end point, rec. 78%	.09¼	.09½	.09	.09¼	.09	.09¼
CALIFORNIA—						
78-85 absorption, 360-390 end point	.15	.15½	.15	.15½	.15	.15½
78-84 compression, 350 end point	.15	.15½	.15	.15½	.15	.15½
CHICAGO DISTRICT (Based on Group 3)—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.09⅝	.09⅞	.09¾	.10	.09¾	.10
Grade A, 72-79.9, 375 end point, rec. 90%	.09⅝	.09⅞	.09¾	.10	.10	.10¼
Grade Double B, 84-92, 375 e.p., rec. 85%	.08¾	.09	.09	.09¼	.09	.09¼
Grade B, 76-83.9, 375 end point, rec. 85%	.08¾	.09	.09	.09¼	.09	.09¼
Grade C, 80-90, 375 end point, rec. 78%	.08⅝	.08⅞	.08½	.08¾	.08⅜	.08½

MOTOR NATURAL GASOLINE (BLENDS)

	Mar. 9		Mar. 2		Feb. 23	
OKLAHOMA (Group 3)—						
60-62 450 end point	.09¾	.10	.09¾	.10	.10	
64-66 437 end point	.09⅞	.10	.10¼	.10½	.10¼	.10½
68-70 430-435 end point	.10¼		.10½	.10¾	.10¾	
NORTH TEXAS—						
64-66 437 end point	.09⅞		.10	.10¼	.10	.10¼
PENNSYLVANIA—						
*60-62	.12½	.12¾	.12½	.12¾	.12½	.12¾
*64-66	.12¾	.13	.12¾	.13	.12¾	.13
*66-68	.13		.13		.13	
*68-70	.13		.13		.13	
CHICAGO DISTRICT (Based on Group 3)—						
60-62 450 end point	.09¾	.10	.09¾	.10	.10	
64-66 437 end point	.10	.10¼	.10¼	.10½	.10½	.10¾

*At Sistersville, W. Va.

BURNING OIL

	Mar 9		Mar. 2		Feb. 23	
KANSAS—						
41-43 water white Kerosene	.07⅛	.07¼	.07	.07¼	.07	.07¼
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.06¾	.06⅞	.06¾	.06⅞	.06¾	.07
42-44 water white Kerosene	.07	.07¼	.07	.07¼	.07	.07¼
NORTH LOUISIANA—						
41-43 prime white Kerosene	.07½	.08	.07¼	.07½	.07¼ .07½	.07½
42-44 water white Kerosene						
ROCKY MOUNTAIN STATES—						
*40-41 water white Kerosene	.09¾	.09⅞	.09¾	.10	.09¾	.10
NORTH TEXAS—						
41-43 water white Kerosene	.06⅞	.07	.06¾		.06¾	.06⅞
42-44 water white Kerosene	.07⅛	.07¼	.07		.07	
ARKANSAS—						
41-43 water white Kerosene	.07¼	.07½	.07¼	.07½	.07	.07¼
42-44 water white Kerosene					.07½	
PENNSYLVANIA—						
43 Kerosene prime white	.08	.08¼	.08	.08¼	.08	.08¼
45 Kerosene water white	.08½	.08¾	.08½	.08¾	.08½	.08¾
46 Kerosene water white	.09½	.09¾	.09½	.09¾	.09½	.09¾
47 Kerosene water white	.10	.10¼	.10	.10¼	.10	.10¼
34 Neutral	.07¾	.08	.07¾	.08	.07¾	.08
34 Sundebloom Neutral	.08¾	.09	.08¾	.09	.08¾	.09
36 Miners Neutral	.07	.07¼	.07	.07¼	.07	.07¼
300 Mineral Seal	.07¾	.08	.07¾	.08	.07¾	.08
CALIFORNIA—						
40-42 water white (high burning test)	.07⅛	.08	.07⅛	.08	.07½	.08
Engine distillate, 43-45 445 end point	.08½	.09	.08½	.09	.08½	.09
Engine distillate, 42-44 450 end point	.08¼	.08½	.08¼	.08½	.08¼	.08½
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.06¾	.06⅞	.06¾	.06⅞	.06¾	.06⅞
42-44 water white Kerosene	.07	.07¼	.07	.07¼	.07	.07¼

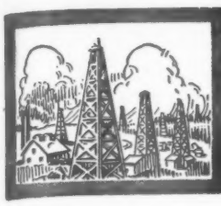
*Colorado points.

FUEL OILS

	Mar. 9		Mar. 2		Feb. 23	
KANSAS—						
24-26 Fuel Oil	1.25	1.30	1.25	1.30	1.22½	1.25
32-36 Gas Oil	.03⅞	.04	.03⅞	.04	.03⅞	.04
38-40 Distillate	.04¼		.04⅛	.04¼	.04	.04⅛
OKLAHOMA (Group 3)—						
Below 22 Fuel Oil (sellers' cars)	1.15	1.17½	1.15	1.17½	1.15	1.17½
22-26 Fuel Oil (sellers' cars)	1.17½	1.20	1.17½	1.20	1.17½	1.20
24-26 Fuel Oil (buyers' cars)	1.22½	1.25	1.20	1.25	1.20	1.25
24-26 Fuel Oil (sellers' cars)	1.22½	1.25	1.22½	1.25	1.22½	1.25
28-30 Fuel Oil (sellers' cars)	1.40		1.35	1.40	1.35	
32-36 Gas Oil (dark)	.03⅞		.03¾	.03⅞	.03¾	.03⅞
32-36 Gas Oil (light)	.03⅞	.04	.03¾	.03⅞	.03¾	.03⅞
36-38 Distillate	.04		.03⅞	.04	.03⅞	.04
38-40 Straw Distillate	.04⅛	.04¼	.04	.04⅛	.04	.04⅛
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	1.35	1.45	1.35	1.40	1.20	1.25
26-30 Fuel Oil	1.40		1.40		1.30	
32-36 Gas Oil (dark)	.03¾	.03⅞	.03⅝	.03¾	.03⅝	.03¾
32-36 Gas Oil (light)	.03⅞		.03¾		.03¾	
38-40 Straw Distillate	.04	.04⅛	.03⅞	.04	.03⅞	.04
NORTH LOUISIANA—						
18-20 Fuel Oil	1.20		1.15	1.17½	1.15	1.17½
32-36 Gas Oil	.04	.04⅛	.03¾	.04	.03¾	.04
ARKANSAS—						
38-40 Distillate	.04	.04⅛	.04	.04⅛	.04	.04⅛
32-36 Gas Oil	.03⅞	.04	.03¾	.03⅞	.03¾	.03⅞
16-20 Refinery Fuel Oil	1.10	1.15	1.10		1.10	
GULF COAST (South Texas)—						
Gas Oil	.05	.05¼	.05	.05¼	.05	.05¼
Fuel Oil	1.65	1.70	1.65	1.70	1.65	1.70
PENNSYLVANIA—						
30-34 Fuel Oil	.05¾	.06	.05¾	.06	.05¾	.06
36-30 Fuel Oil	.06	.06¼	.06	.06¼	.06¼	.06½
CALIFORNIA—						
33-36 Distillate	.04¾	.05	.04¾	.05	.04¾	.05
27-35 Distillate	.04	.04½	.04	.04½	.04	.04½
15-20 Fuel Oil (at tidewater)	1.00	1.04	1.00	1.04	1.00	1.04
27 plus Diesel	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars, Group 3)	1.20	1.25	1.20	1.22½	1.20	1.22½
18-22 (El Dorado)	1.15	1.17½	1.15	1.17½	1.15	1.17½
18-20 (Smackover)	1.10	1.12½	1.10	1.15	1.10	1.15
32-36 Gas Oil	.03⅞	.04	.03¾	.03⅞	.03¾	.03⅞
36-38 Distillate	.03⅞	.04	.03¾	.04	.03⅞	.04
38-40 Straw Distillate	.04	.04¼	.04	.04¼	.04	.04⅛

LUBRICATING OILS AND WAX

	Mar. 9		Mar. 2		Feb. 23	
OKLAHOMA (Group 3)—						
70-80 vis., 2½ color, 20-25 cold test	.06	.06¼	.06	.06¼	.06	.06¼
100 vis., 3 color, 20-25 cold test	.06½	.07	.06½	.07	.06½	.07
100 vis., 2 color, 20-25 cold test	.07	.07½	.07	.07½	.07	.07½
150 vis., 3 color, 20-25 cold test	.09½	.10	.09½	.10	.09½	.10
150 vis., 4 color, 20-25 cold test	.09¼	.09¾	.09¼	.09¾	.09¼	.09¾
180 vis., 4 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
180 vis., 3 color, 23-28 cold test	.10¼	.10¾	.10¼	.10¾	.10¼	.10¾
200 vis., 3 color, 23-28 cold test	.11¼	.11¾	.11¼	.11¾	.11¼	.11¾
200 vis., 4 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11¾
220 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
220 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
240 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
280 vis., 3 color, 25-30 cold test	.16¼	.17	.16¼	.17	.16¼	.17
280 vis., 4 color, 25-30 cold test	.16	.16½	.16	.16½	.16	.16½
Red Neutrals:						
180 vis., 5 color, 23-28 cold test	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
180 vis., 6 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
200 vis., 5 color, 23-28 cold test	.10¾	.11¼	.10¾	.11¼	.10¾	.11¼
200 vis., 6 color, 23-28 cold test	.11½	.12	.11½	.12	.11½	.12
220 vis., 5 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
220 vis., 6 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
240 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
240 vis., 6 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
280 vis., 5 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
Cylinder Stocks:						
180-200 vis., S. R. green, 40-45 cold test	.08½	.11	.08½	.11	.08½	.11
190-200 vis., S. R. green, 40-45 cold test	.08	.08½	.08	.08½	.08	.08½



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

170-190 dark green, 40-45 cold test	.06½	.07	.06½	.07	.06½	.07
190-200 vis. @ 210 "D" Bright Stock	.33	.35	.33	.35	.33	.35
200-210 vis. @ 210 "E" Bright Stock	.30	.31	.30	.31	.30	.31
150 vis. @ 210 "E" Bright Stock	.27	.28	.27	.28	.27	.28
150 vis. @ 210 "D" Bright Stock	.28	.31	.28	.31	.28	.31
Waxes:						
122-124 White Crude Scale Wax	.04¾	.05	.04¾	.05	.04⅞	.05
PENNSYLVANIA—						
150, 3 color	.22		.22		.21	
180, 3 color	.26½		.26½		.25	
200, 3 color	.28½		.28½		.27¼	
220, 3 color	.20½		.29		.28½	
600, steam refined	.18		.18¼		.18¼	
635, steam refined	.21½		.21½		.21½	
650, steam refined	.22½		.22¼		.22½	
600, Pennsylvania flash	.27		.27		.27	
630, Pennsylvania flash	.36		.36		.36	
*550, E filtered	.20¾		.20¾		.20¾	
600, E filtered	.21¼		.21¼		.21¼	
*600, E filtered	.22¾		.22¾		.22¾	
600, D filtered	.27½		.27½		.27½	
550, E filtered	.20		.20		.20	
550, D filtered	.22¼		.22¼		.22¼	
Pennsylvania Bright Stock	.38		.38½		.38½	
122-124 White Crude Scale Wax	.05⅝	.05½	.05⅝	.05½	.05⅝	.05½
†124-126 White Crude Scale Wax	.05½	.05⅝	.05½	.05⅝	.05½	.05⅝

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
Zero Black	.06	.07	.06	.07	.06	.07
No. 2 color, 100 vis., pale oil	.07½	.08	.07½	.08	.07½	.08
No. 2½ color, 150 vis., pale oil	.10	.10½	.10	.10½	.10	.10½
No. 3 color, 200 vis., pale oil	.11	.11½	.11	.11½	.11	.11½
No. 3½ color, 300 vis., pale oil	.12½	.14	.12½	.14	.12½	.14
No. 3¾ color, 500 vis., pale oil	.15½	.16	.15½	.16	.15½	.16
No. 4 color, 750 vis., pale oil	.19½	.20	.19½	.20½	.19½	.20½
No. 1½ plus color, 150 vis., pale filtered	.22		.22		.22	
No. 2 plus color, 200 vis., pale filtered	.23½		.23½		.23½	
No. 2 color, 300 vis., pale filtered	.27½		.27½		.27½	
No. 2½ color, 500 vis., pale filtered	.31½		.31½		.31½	
No. 2½ color, 750 vis., pale filtered	.41½		.41½		.41½	
No. 5 to 6 color, 200 vis., red oil	.09½	.10	.10	.10½	.10	.10½
No. 5 to 6 color, 300 vis., red oil	.11½	.12	.12	.12½	.12	.12½
No. 5 to 6 color, 500 vis., red oil	.13	.13½	.13½	.14	.13½	.14
No. 5 to 6 color, 750 vis., red oil	.19	.19½	.18	.18½	.18	.18½
CALIFORNIA—						
130 pale, 2½-3 color	.10	.10½	.10	.10½	.10	.10½
200 vis., 2½-3 color	.13½	.14½	.13½	.14½	.13½	.14½
300 vis., 3 -3½ color	.15	.16	.15	.16	.15	.16
350 vis., 3½-4 color	.16½	.17	.16½	.17	.16½	.17
400 vis., 3½-4 color	.18	.19	.18	.19	.18	.19
Red Neutrals:						
200 vis., 4½-5 color	.12	.13	.12	.13	.12	.13
300 vis., 5 -6 color	.13	.14	.13	.14	.13	.14
400 vis., 5 -6 color	.15	.16	.15	.16	.15	.16
500 vis., 4½-5 color	.18	.19	.18	.19	.18	.19
500 vis., 6 -6½ color	.16	.17	.16	.17	.16	.17
600 vis., 6½ plus color	.17	.18	.17	.18	.17	.18

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK DOMESTIC MARKET

Bayonne Refinery Prices:	Mar. 9	Mar. 2	Feb. 23
U. S. Motor Gasoline, 58-60 437	.14	.14	.14
*Bunker Oil, 14-16 Be.	1.75	1.75	1.75
*Diesel Oil, New York City	2.30	2.20	2.20
Furnace Oil, New York City	.10	.10	.10
Gas Oil, 28 plus	.06	.05½	.05½
41-43 Kerosene prime white	.08½	.08	.08

*Lighterage 6.5c a barrel extra.

NEW YORK EXPORT PRICES

Motor Gasoline:	Mar. 9	Mar. 2	Feb. 23
58-60 Be. gravity, in cases	.28.15	.28.15	.28.15
Standard white Kerosene, in cases	.18.40	.18.40	.18.40
Water white Kerosene, in cases	.19.90	.19.90	.19.90
Export Gasoline, 64-66 Be.	.17	.17	.17
†Lubricating Oils (in bulk):			
Cylinder Stock, light filtered, 600 s. r.	.29	.29	.29
No. 5 Bright Stock, .897 spec. grav.	.40	.40	.40
No. 1 White Neutral, .878 spec. grav.	.35	.35	.35
Pale oil, "25" .898 spec. grav.	.12	.12	.12
Pale oil, "28" .892 spec. grav.	.07½	.07½	.07½
No. 3 red oil, 160 vis., 7 color	.10¾	.10¾	.10¾
No. 2 red oil, .903 spec. grav., 212 vis.	.11½	.11	.11
No. 1 red oil, .905 spec. grav., 265 vis.	.13	.13	.13
Polar red oil, .903 spec. grav., 295 vis.	.13½	.13½	.13½
Paraffin Wax:			
120-122 a.m.p., per lb.	.06½	.06¼	.06⅛
125-127 a.m.p., per lb.	.06¾	.06¼	.06¼
130-132 a.m.p., per lb.	.06⅞	.06½	.06½
135-137 a.m.p., per lb.	.07⅛	.07⅛	.07⅛
Petrolatum, in bbls., car load lots, per lb.:			
Amber	.03½	.03½	.03½
Light amber	.03¾	.03¾	.03¾
Cream	.06	.06	.06
Lily white	.08	.08	.08
Snow white	.10	.10	.10

†All lub prices in barrels.

LOS ANGELES EXPORT PRICES

	Mar. 9		Mar. 2		Feb. 23	
Kerosene water white	.05	.05½	.05	.05½	.05	.05½
U. S. Motor Gasoline, 54-56 437 end point	.08	.09	.08	.10	.08	.10

CRUDE OIL PRICES

Arkansas and North Louisiana

Caddo, 38° and above	$2.20
35° to 37.9°	2.10
32° to 34°9°	2.00
Below 32°	1.85
Homer, 35° and above	1.95
32° to 34.9°	1.85
31° to 32.9°	1.75
Below 31°	1.60
Haynesville, 33° and above	1.85
Below 33°	1.75
El Dorado, 33° and above	1.85
Below 33°	1.75
Bull Bayou, 38° and above	2.00
35° to 37.9°	1.85
32° to 34.9°	1.70
Cotton Valley	1.10
De Soto	2.05
Crichton	1.85
Bellevue	1.50
*Stephens, Ark:	
Below 26°	1.30
26° and above	1.50
**Calion	.95
†Urania	1.40
Smackover:	
Below 24°	1.00
24° to 24.9°	1.25
25° to 25.9°	1.30
26° to 26.9°	1.35
27° and above	1.40

*Posted by Atlantic Oil Producing Co.
†Posted by Louisiana Oil & Refining Co.
**Posted by Gulf Pipe Line Co.

Wyoming, Montana, New Mexico and Colorado

Rock Creek, (Wyo.)	2.00
Salt Creek:	
29° to 29.9°	1.48
30° to 30.9°	1.56
31° to 31.9°	1.64
32° to 32.9°	1.72
33° to 33.9°	1.80
34° to 34.9°	1.88
35° to 35.9°	1.96
36° to 36.9°	2.04
37° and above	2.12
Big Muddy	2.00
Mule Creek	1.50
Grass Creek (light)	2.15
Grass Creek (heavy)	.90
Elk Basin	2.15
Lance Creek	2.15
Osage	2.15
Cat Creek (Mont.)	2.15
Sunburst (Mont.)	1.15
Lost Soldier	1.10
Greybull and Torchlight	1.90
Hamilton Dome	1.55
Hogback, (N. Mex.)	1.95
Artesia, (N. Mex.)	1.70
Florence, (Colo.)	1.35

Lost Soldier and Lander based on contracts.

Oklahoma, Kansas, North and East Central Texas

*Prairie Oil & Gas Co. and other major purchasing companies except as noted.

28° to 28.9°	1.40
29° to 29.9°	1.48
30° to 30.9°	1.56
31° to 31.9°	1.64
32° to 32.9	1.72
33° to 33.9	1.80
34° to 34.9	1.88
35° to 35.9°	1.96
36° to 36.9°	2.04
37° to 37.9°	2.12
38° to 38.9°	2.20
39° to 39.9°	2.28
40° to 40.9°	2.36
41° to 41.9°	2.44
42° to 42.9°	2.52
43° to 43.9°	2.60
44° to 44.9°	2.68
45° to 45.9	2.76
46° to 46.9°	2.84
47° to 47.9°	2.92
48° to 48.9°	3.00
49° to 49.9°	3.08
50° to 50.9°	3.16
51° to 51.9°	3.24
52° and above	3.32

*Champlin Refining Co. posts a schedule of 25 cents additional on each grade of crude above 38° gravity.

*Texhoma Oil & Refining Co.
(For Wichita Falls, Tex., Distdict)

Below 32°	$1.88
32° to 32.9°	1.94
33° to 33.9°	2.00
34° to 34.9°	2.06
35° to 35.9°	2.12
36° to 36.9°	2.18
37° to 37.9°	2.24
38° to 38.9°	2.30
39° to 39.9°	2.36
40° to 40.9°	2.42
41° to 41.9°	2.48
42° to 42.9°	2.54
43° to 43.9°	2.60
44° and above	2.69

*Humble Oil & Refining Co.
(North Texas, Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran.)

Below 25°	1.08
25° to 25.9	1.16
26° to 26.9	1.24
27° to 27.9°	1.32

Other grades same as Prairie Oil & Gas Co.

*Magnolia Petroleum Co.
(Oklahoma, Kansas and Texas)

Below 28°	1.20

Other grades same as Prairie Oil & Gas Co.

Iatan	1.15
Corsicana heavy	1.15
Thrall	1.00
Panhandle:	
(Posted by Kay County Gas Co.)	
Below 31°	1.15
31° to 33.9°	1.30
34° to 36.9°	1.50
37° to 39.9°	1.65
40° and above	1.70
Gypsy Oil Co.—	
Bristow, Glenn Pool, Morris and Perryman:	
25° to 25.9°	1.16
26° to 26.9°	1.24
27° to 27.9°	1.32

Other grades same as Prairie Oil & Gas Co.

Gulf Coast and Southwest Texas

Grade A	1.50
Grade B	1.25
Luling (Magnolia)	1.10
Mirando City (Laredo)	1.05
Rockdale-Minerva (Milam County)	1.25
Calliham (Live Oak-McMullen)	1.65
Webb, Jim Hogg, Zapata	1.15
*High Island	1.20
Sour Lake (36 gravity)	1.79
Boling deep sand	1.50
Piedras Pintas	1.75

*Posted by Sun Oil Co.
Somerset crude, posted by Grayburg Oil Co. follows same grades and prices as North and East Central Texas crudes.

Eastern States

Penna Grade Oil in New York Transit Lines	3.65
Bradford District Oil in National Transit Lines	3.65
Penna Grade Oil in National Transit Lines	3.55
Penna Grade Oil in Southwest Pa. Pipe Lines	3.55
Penna Grade Oil in Eureka Pipe Line Lines	3.50
Penna Grade Oil in Buckeye Pipe Line Lines	3.30
Cabell Grade Oil in Eureka Pipe Line Lines	2.20
Corning Grade Oil in Buckeye Pipe Line Lines	2.35
Somerset Medium Oil in Cumberland Pipe Line Lines	2.30
Somerset Light Oil in Cumberland Pipe Line Lines	2.45
Ragland Grade Oil in Cumberland Pipe Line Lines	1.15
Gaines	2.95
Keister (Butler County)	2.45
Lima	2.28
Wooster	2.35
Illinois	2.12
Indiana	2.00
Princeton	2.12
Plymouth	1.65
Waterloo	1.10

(Continued on Page 176)

TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns, Mar. 9.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

Main Service Station Price

	Gasoline			Kero.
	Tank Wagon	Service station	Incldg tax of	Tank wagon
Chicago Dist.—				
†Less than 100 gals.	17.0	19.0	...	12.0

Tank wagon prices on April 19, 1922: g. up 1¼c; May 8, g. up 1c; June 27, g. and k. up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 20, g. up 2c; Jan. 12, 1924, g. up 2c, k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18, g. down 1c; July 30, g. and k. down 1c; Sept. 12, g. down 2c; Jan. 23, 1925, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Feb. 12, g. up 2c, k. up 1c; April 19, g. down 1c; July 14, g. up 1c; Aug. 25, g. down 2c, k. down 1c; Sept. 1, g. down 1c; Feb. 4, 1926, g. up 1c; k. up 1c.

Decatur, Ill.	17.2	19.2	...	12.5
East St. Louis	16.1	18.35	...	11.6
Joliet	17.4	19.4	...	12.7
Peoria	17.2	19.2	...	12.7
Quincy	17.2	19.2	...	12.3
Davenport, Ia.	19.5	21.5	2.0	12.9
Des Moines	19.5	21.5	2.0	12.9
Keokuk	19.5	21.5	2.0	12.9
Sioux City	19.0	21.0	2.0	12.5
Duluth, Minn.	20.5	22.5	2.0	13.6
Minneapolis	20.2	22.2	2.0	13.6
La Crosse, Wis.	20.2	22.2	2.0	13.1
Milwaukee	20.1	21.1	2.0	12.3
Madison	19.3	21.3	2.0	12.5
Detroit, Mich	19.8	21.8	2.0	13.2
Grand Rapids	19.7	21.7	2.0	13.1
Saginaw	19.9	21.9	2.0	13.3
Evansville, Ind.	20.0	22.0	3.0	12.5
Fort Wayne	20.4	22.4	3.0	12.9
Indianapolis	20.2	22.2	3.0	12.7
South Bend	20.4	22.4	3.0	12.9
Fargo, N. D.	20.9	22.9	1.0	15.6
Huron, S. D.	19.0	21.0	3.0	14.1
Sioux Falls	18.0	20.0	3.0	13.6
*K. C., Mo.	19.9	21.9	3.0	11.3
*Springfield	19.8	21.8	3.0	12.2
*St. Louis	18.6	20.9	2.5	12.0
*St. Joseph	19.0	21.0	2.5	11.9
Wichita, Kan.	18.3	20.3	2.0	11.8
Bartlesville, Ok.	17.4	19.4	3.0	10.9

*State tax is 2c. Remainder is city tax.
†Quantity price on more than 100 gallons, 16.0.

The following monthly rebate system is effective on tank wagon schedules throughout the territory of Standard Oil Co. of Indiana: Over 750 gallons, ½c; over 2,000 gallons, ¾ cent; over 3,000 gallons, 1 cent; over 6,000 gallons, 1½ cents; over 10,000 gallons, 2 cents. If quantity bought during the year is equal to 12 times the monthly agreed purchases the discount will be paid or credited on the entire quantity less monthly payments. Service station customers will receive discount of 1 cent a gallon on purchases amounting to 200 gallons a month or 2,400 gallons a year; and 2 cents a gallon on 600 gallons a month or 7,200 gallons a year.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank Wagon	Service station	Incldg tax of	Tank wagon
Newark, N. J.	16.0	18.0	...	15.0
Atlantic City	16.0	....	...	15.0
Annapolis, Md.	18.0	....	...	15.0
Baltimore	18.0	21.0	2.0	15.0
Cumberland	18.0	21.0	2.0	15.0
Washington	18.0	21.0	2.0	15.0
Norfolk, Va.	20.0	23.0	3.0	15.0
Petersburg	20.0	....	3.0	15.0
Danville	20.0	....	3.0	15.0
Richmond	20.0	23.0	3.0	15.0
Roanoke	20.0	23.0	3.0	15.0
Keyser, W. Va.	20.0	....	3.5	15.0
Charleston	20.0	23.0	3.5	15.0
Parkersburg	20.0	23.0	3.5	15.0
Wheeling	20.0	23.0	3.5	15.0
Charlotte, N. C.	21.0	24.0	4.0	15.0
Hickory	21.0	....	4.0	15.0
Mt. Airy	21.0	....	4.0	15.0
Salisbury	21.0	....	4.0	15.0
Charleston, S.C.	22.0	25.0	5.0	15.0
Columbia	22.0	25.0	5.0	15.0

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank Wagon	Service station	Incldg tax of	Tank wagon
*Pittsburgh, Pa.	17.0	22.0	...	16.0
*Philadelphia	17.0	22.0	...	16.0
*Scranton	17.0	22.0	...	16.0
*Allentown	17.0	22.0	...	16.0
Altoona	17.0	22.0	...	16.0
*Erie	17.0	22.0	...	16.0
Dover, Del.	19.0	22.0	2.0	16.0
Wilmington	19.0	22.0	2.0	16.0
Spring'fd. Mass.	18.0	20.0	...	16.0
Worcestar	18.0	20.0	...	16.0
Boston	18.0	21.0	...	16.0
Providence, R.I.	19.0	22.0	1.0	16.0
Hartford, Conn.	20.0	23.0	2.0	15.0
New Haven	20.0	23.0	2.0	16.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank Wagon	Service station	Incldg tax of	Tank wagon
Atlanta, Ga.	23.0	26.0	3.5	17.0
Augusta	23.0	26.0	3.5	17.0
Macon	23.0	26.0	3.5	17.0
Savannah	20.0	23.0	3.5	15.0
Birm'gham, Ala	20.0	23.0	2.0	16.5
Mobile	19.0	22.0	2.0	15.0
*Montgomery	21.0	24.0	3.0	17.5
Clarksdale, Miss	20.0	23.0	3.0	14.5
Jackson	20.0	23.0	3.0	13.5
Natchez	19.5	22.5	3.0	14.0
Vicksburg	19.5	22.5	3.0	14.0
Jack'ville, Fla.	21.0	24.0	4.0	15.0
Miami	23.0	26.0	4.0	16.5
Pensacola	21.0	24.0	4.0	15.5
Tampa	21.0	24.0	4.0	15.0
Covington	23.0	26.0	5.0	16.0
Louisville	23.0	26.0	5.0	15.0
Lexington, Ky.	22.0	25.0	5.0	16.0

*In addition to the State tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ½ cents on kerosene.

SOUTHWESTERN DISTRICT

***Magnolia Petroleum Co.**

	Gasoline			Kero.
	Tank Wagon	Service station	Incldg tax of	Tank wagon
Dallas, Tex.	15.0	19.0	1.0	12.0
Fort Worth	14.0	16.0	1.0	11.0
Houston	16.0	19.0	1.0	12.0
San Antonio	15.0	16.0	1.0	11.0
El Paso	18.0	19.0	1.0	13.0
Texarkana	17.0	20.0	1.0	13.0
Muskogee, Okla.	20.0	23.0	3.0	10.0
Oklahoma City	20.0	23.0	3.0	12.0
Tulsa	18.0	19.0	3.0	12.0
Little Rock	18.5	21.5	4.0	14.5
Ft. Smith, Ark.	19.0	22.0	4.0	14.5

*The following is the schedule of discounts on gasoline adopted by the Magnolia Petroleum Co. in Texas sales and the discounts are graded according to gallonage: Over 750 gallons a month, ½ cent; over 2,000 gallons, ¾ cent; over 3,000 gallons, 1 cent; over 4,500 gallons, 1¼ cents; over 6,000 gallons, 1½ cents; over 8,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month, 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases as in the tank wagon discounts.

OHIO

Standard Oil Co.(Ohio)

	Gasoline			Kero.
	Tank Wagon	Service station	Incldg tax of	Tank wagon
All Ohio points	21.0	23.0	2.0	14.0

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank Wagon	Service station	Incldg tax of	Tank wagon
Denver, Colo.	20.0	20.0	2.0	15.5
Pueblo	19.0	19.5	2.0	15.5
Casper, Wyo.	20.5	23.5	2.5	14.0
Cheyenne	21.5	23.5	2.5	15.5
Salt Lake, Utah	23.5	25.5	3.5	18.0
Butte, Mont.	22.0	22.0	2.0	17.0
Helena	24.0	26.0	2.0	18.0
Boise, Idaho	25.0	27.0	3.0	20.0
Albuquerque, N. Mex.	24.5	27.5	3.0	17.5

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank Wagon	Service station	Incldg tax of	Tank wagon
Albany, N. Y.	18.0	....	...	16.0
*New York	18.0	....	...	16.0
Buffalo	16.0	....	...	16.0
Rochester	16.0	....	...	16.0
Syracuse	17.0	....	...	16.0
Boston, Mass.	18.0	....	....	....
Providence, R.I.	19.0	....	1.0	....
Augusta, Me.	21.0	....	3.0	16.0
Manchester, N. H.	20.0	....	2.0	16.0
Burlington, Vt.	20.0	....	2.0	16.0

*Price in steel barrels.
Note: Standard Oil Co. of New York does not generally quote service station price in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank Wagon	Service station	Incldg tax of	Tank wagon
*New Orleans	17.0	20.0	3.0	13.5
Alexandria	16.5	19.5	3.0	14.5
Baton Rouge	15.5	18.5	3.0	13.0
LaFayette	17.5	19.5	3.0	14.0
Lake Charles	17.0	20.0	3.0	14.5
Shreveport, La.	15.5	18.5	3.0	13.5
Memphis, Tenn.	18.0	21.0	3.0	14.5
Chattanooga	18.5	21.5	3.0	15.0
Knoxville	19.0	22.0	3.0	15.5
Nashville	18.5	21.5	3.0	15.0
Bristol	19.5	22.5	3.0	15.0
Little Rock, Ark	18.5	21.5	4.0	14.5

*Tax of 3 cents includes city tax of 1 cent.

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank Wagon	Service station	Incldg tax of	Tank wagon
San Francisco	16.0	20.0	2.0	15.5
Los Angeles	14.5	18.5	2.0	15.5
Fresno	16.5	20.5	2.0	17.5
Reno, Nev.	21.5	25.5	4.0	19.0
Portland, Ore.	17.0	21.0	3.0	16.5
Seattle, Wash.	16.0	20.0	2.0	16.5
Spokane	20.0	24.0	2.0	20.5
Tacoma	16.0	20.0	2.0	16.5
Phoenix, Ariz	23.0	26.0	3.0	21.5

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank Wagon	Service station	Incldg tax of	Tank wagon
Omaha	18.25	20.25	2.0	12.5
Crawford	20.0	....	2.0	13.25
McCook	20.75	22.75	2.0	14.0
Norfolk	19.75	21.75	2.0	13.0
North Platte	20.75	22.75	2.0	13.75
Scottsbluff	20.25	22.25	2.0	13.25

CRUDE OIL CHANGES

March 1—Ohio Oil Co. advanced Wooster crude 10 cents.

March 8—Josepn Seep Purchasing Agency reduced all grades of Pennsylvania except Pennsylvania Grade oil in Buckeye Pipe Lines 25 cents. The latter was reduced 35 cents. Gaines, Keister, Ragland, Somerset and Cabell crudes were unchanged.

March 9—Standard Oil Co. of Louisiana reduced Bellevue crude 15 cents.

TANK WAGON PRICE CHANGES

February 27—Standard Oil Co. of Louisiana reduced tank wagon and service station gasoline in Louisiana and Arkansas a half cent.

TANK CAR COMPANIES LOSE LOUISIANA SUIT

Tank car companies lost a test suit against the sheriff of East Baton Rouge Parish and the Louisiana tax commission when the United States Supreme Court the past week sustained a decision of a lower court that the Louisiana tax on corporations doing business in, but not domiciled in, the State was valid.

The General American Tank Car Corp. and other corporations had sought to prevent the collection of taxes in excess of the regular State tax of 5¼ mills on an assessment, contending that a levy on their tank cars operated in Louisiana was an invalid restraint upon interstate commerce and unjustly discriminatory. They insisted that corporations organized in or domiciled in the State were not subject to the tax.

The law provided for a special tax of 25 mills on rolling stock of nonresidents. The State supported the law as an ad valorem tax on property of the corporations within the State and asserted that it did no more than equalize the taxes to which the complaining corporations would be subjected should they become domiciled.

The Union Tank Car Co. of New Jersey, which sought a temporary injunction in the District Court, was assessed on 510 cars at $980 each, or a total of $499,800, arrived at by distributing the prorata of mileage to the total property of the company.

It was alleged the total mileage per car in operation in Louisiana was in excess of the national average and for this reason the assessment should be reduced to 115 cars with a total assessment of $112,700. This company also alleged that the State had no right to collect any taxes, but that it is willing to pay the regular State rate of 5¼ mills on $112,700. The suit originated in December, 1922.

CRUDE OIL PRICES

(Continued from Page 175)

Oil Springs, Canada	2.70
Petrolia, Canada	2.63
*Western Kentucky, 36° and above	2.05
*Western Kentucky, 35° to 35.9°	1.95
Western Kentucky, 32.9 and below	1.85
Cumberland, Barren and Monroe Counties (Kentucky), (Paragon Development Co.)	2.45

*Prices for Warren, Allen, Hancock, Simpson and Ohio Counties by Indian Refining Co.

Mexican Crude

*Tuxpam light (f.o.b. Mex. ports)	1.35
‡Panuco heavy (f.o.b. Mex. ports)	1.15
Tuxpam (New York)	2.05
Panuco (New York)	1.70

*Plus 30.33c tax. ‡16.93c tax.

CALIFORNIA PRICES

Gravity	Long Beach	Richfield Huntington Beach Brea-Olinda	Rosecrans Dom'guez	Torrance Inglew'd	Whittier La Habra Montebello	Coyote	Santa Fe	Kern River Newhall McKittr'k	Midway-Sunset Elk Hills	Lost Hills Belridge	Coalinga	Wheeler Ridge	Santa Maria Ventura Salt Lake
14°	$ .85	$ .85	....	$ .85	$ .85	$ .85	....	$ .75	$ .75	$ .75	$ .75	$ .75	$ .85
15°	.87	.87	....	.87	.85	.85	....	.75	.75	.75	.75	.75	.85
16°	.90	.90	....	.90	.85	.85	....	.75	.75	.75	.75	.75	.85
17°	.94	.94	....	.94	.85	.85	....	.75	.75	.75	.75	.75	.85
18°	.98	.98	....	.98	.85	.85	....	.75	.75	.75	.75	.75	.85
19°	1.02	10.2	....	1.02	.85	.85	....	.75	.75	.75	.75	.75	.85
20°	1.06	1.06	....	1.06	.87	.88	....	....	.79	.79	.79	.78	.89
21°	1.10	1.10	....	1.10	.89	.94	....	....	.84	.84	.84	.81	.93
22°	1.14	1.14	....	1.14	.91	1.00	....	....	.92	.92	.89	.84	.98
23°	1.18	1.18	....	1.18	.94	1.06	....	....	1.00	1.00	.94	.87	1.03
24°	1.22	1.22	....	1.22	.97	1.12	.97	....	1.08	1.08	.99	.90	1.08
25°	1.26	1.26	....	1.26	1.00	1.18	1.05	....	1.16	1.16	1.04	.93	1.13
26°	1.30	1.30	$1.30 *	1.30	1.03	1.24	1.13	....	1.24	1.24	1.09	.96	1.18
27°	1.34	1.34	1.34	1.34	1.06	1.30	1.21	....	1.32	1.32	1.14	.99	1.23
28°	1.38	1.38	1.38	1.38	1.09	1.36	1.28	....	1.40	1.40	1.19	....	1.28
29°	1.42	1.42	1.42	....	1.12	1.42	1.34	....	1.48	1.48	1.24	....	1.33
30°	1.46	1.46	1.46	....	1.15	1.48	1.40	....	1.56	1.56	1.29	....	1.38
31°	1.52	....	1.52	....	....	....	1.46	....	1.64	1.64	1.34	....	1.43
32°	....	....	1.58	....	....	....	1.52	....	1.72	1.72	1.39	....	1.47
33°	....	....	1.64	....	....	....	1.60	....	1.80	1.80	1.44	....	1.51
34°	....	....	1.70	....	....	....	1.68	....	....	1.88	1.49	....	1.56
35°	....	....	1.76	....	....	....	1.76	....	....	....	1.54	....	1.60
36°	....	....	1.84	....	....	....	1.84	....	....	....	....	....	....
37°	....	....	1.92	....	....	....	1.92	....	....	....	....	....	....
38°	....	....	2.00	....	....	....	2.00	....	....	....	....	....	....
39°	....	....	2.08	....	....	....	....	....	....	....	....	....	....
40°	....	....	2.16	....	....	....	....	....	....	....	....	....	....
41°	....	....	2.24	....	....	....	....	....	....	....	....	....	....
42°	....	....	2.30	....	....	....	....	....	....	....	....	....	....

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SINCLAIR OILS

REG. U.S. PAT. OFF.

Oil Securities Tended Lower Last Week

Tidewater-Associated Merger Principal Event. Swan and Finch Sells Higher by Four Points. Established Issues Relatively Steady

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, 30 Church St., New York

NEW YORK, Mar. 8.—Oil securities tended lower during the past week. The Tidewater-Associated merger was the outstanding event and was followed by selling of Tidewater Oil common which fell to 36 against 39. Previous to the announcement. Swan and Finch was higher, selling up 4 points to 20.

The widespread break in securities on the principal exchanges found the established oils relatively steady. Independent Oil & Gas, Humble Oil and a few other oil stocks were sold rather freely, but rebounded with equal rapidity. Investment holders of oil stocks apparently had reason to be satisfied with the fact that speculation in their issues had not been overdone.

Associated Oil

Associated Oil stock sold for cash at $60, a premium of 1 point over the price for regular delivery. This, according to traders, indicates that those who had sold short were having difficulty in borrowing the stock for covering purposes, and shows the floating supply is rather limited.

Humble Oil

A statement by W. S. Farish, president of the Humble Oil & Refining Co., bears out estimates of earnings of the company for 1925. He states net income for the year was $24,873,790 after depreciation and depletion. Federal taxes are estimated at about $2,250,000, leaving earnings of $22,623,790, or $12.93 a share on 1,750,000 shares outstanding.

Standard Oil of Indiana

The annual statement of the Standard Oil Co. of Indiana for 1925 shows net profit of $52,932,648 after depreciation and tax reserves, equivalent to $5.84 a share (par $25) on $226,322,708 outstanding capital stock, compared with $40,788,868, or $4.55 a share on $223,756,258 outstanding in 1924.

The income account does not include earnings from subsidiaries, the Midwest Refining Co., Pan American Petroleum & Transport, Sinclair Pipe Line Co. and Sinclair Crude Oil Purchasing Co. Only dividends actually received are included in the statement. It is officially stated that the Midwest Refining Co. earned approximately $7,000,000 last year.

The income account for 1925 compares with 1924 as follows:

	1925	1924
*Net earnings	$60,532,648	$46,088,868
Tax reserve	7,600,000	5,300,000
Net profit	$52,932,648	$40,788,868
Dividends	22,521,638	22,284,750
Surplus	$30,411,010	$18,504,118

*After depreciation.

The balance sheet of the Standard Oil Co. of Indiana as of December 31, 1925, compares with 1924 as follows:

Assets	1925	1924
Real estate	$ 32,557,542	$ 29,401,932
*Plant	106,730,982	99,608,418
Personal property	2,768,546	3,075,399
Accts. receivable	20,950,645	18,622,292
Securities and investments	141,829,092	138,825,263
Merchandise	66,089,705	50,660,382
Cash	35,133,384	21,288,275
Total	$406,059,896	$361,481,961
Liabilities		
§Capital stock	$226,322,708	$223,756,258
Bonds		46,000
Accts. payable	23,388,799	18,254,273
Reserves	14,287,255	10,873,343
Capital surplus	63,095,042	59,379,968
Earned surplus	78,966,092	49,172,119
Total	$406,059,896	$361,481,961

*After depletion and depreciation. §Par, $25.

The statement of the Illinois Pipe Line Co. as of December 31, 1925, shows total assets of $38,664,961, against $36,347,251 at the end of 1924. The balance sheet as of December 31, 1925, compares with December 31, 1924, as follows:

Assets	1925	1924
Pipe line property	$31,273,428	$30,803,807
Other investment	2,726,000	442,000
Cash & accts. recv.	3,340,492	3,843,039
Materials & sup.	892,499	1,137,297
Def. assets, ec.	432,542	121,108
Total	$38,664,961	$36,347,251
Liabilities		
Capital stock	$20,000,000	$20,000,000
Tax liabil.	885,539	1,562,495
Deprec. reserve	11,645,291	10,356,805
Accts. payable	273,164	59,167
Unadjust. credits	44,546	8,017
P. & L. surplus	5,816,321	4,360,767
Total	$38,664,961	$36,347,251

National Transit

The National Transit Co. reports for the year ended December 31, 1925, net profit of $706,257, after charges and taxes, against $774,740 in 1924.

California Petroleum

The California Petroleum Corp. and subsidiaries report for the year ended December 31, 1925, net profit of $6,294,852, after depreciation, depletion, interest, Federal tax reserve. This is equivalent to 14 per cent earned on the $44,975,125 common stock (par $25) outstanding at the end of the year.

The consolidated income account for 1925 compares with 1924. as follows:

	1925	1924
Gross earnings	$22,937,639	$17,680,521
Operating exp.	8,735,358	7,363,900
Deprc., depl., etc.	6,711,470	5,896,562
Tax reserve, etc.	600,000	350,000
Interest	595,959	592,628
Sinking fund		582,969
Net profit	$ 6,294,852	$ 2,894,462
Preferred divid.	423,499	836,787
Common divid.	1,995,669	1,216,390
Surplus	$ 3,875,684	$ 841,285

The consolidated balance sheet of the California Petroleum Corp. and subsidiaries, as of December 31, 1925, compares as follows:

Assets	1925	1924
*Property acct.	$60,488,661	$48,830,697
Investment	413,350	153,250
Bond sink. fund	397,767	255,872
Cash	3,459,094	1,116,399
Accts. & notes rec.	2,033,826	1,244,104
Oil inventory	5,472,121	3,873,497
Other inventories	2,592,916	1,458,802
Deferred charges	982,976	630,421
Total	$75,835,711	$57,563,042
Liabilities		
Preferred stock		$11,955,100
§Common stock	44,955,125	17,377,000
Subs. cos. stock	320,758	13,351
Bonds	7,151,300	7,892,600
Accts. payable	1,977,969	977,961
Divids. payable		207,814
Fed. tax. res. etc.	1,448,738	844,719
**Appro. surplus	116,880	3,196,374
Capital surplus	377,810	2,783,051
Unappro. surplus	19,487,131	12,295,072
Total	$75,835,711	$57,563,042

*After reserve for depreciation and depletion. §Par, $25. **For redemption of preferred stock and bonds of subsidiary companies.

Houston Oil

The consolidated statement of Houston Oil Co. of Texas and Houston Pipe Line Co. for year ended December 31, 1925, shows net profit of $1,350,325 after depreciation, depletion, Federal taxes, etc., equivalent after preferred dividends to $3.25 a share earned on $24,968,600 common stock. This compares with net profit of $1,518,792, exclusive Houston Pipe Line Co., in 1924, or $3.93 a share.

The consolidated income account for 1925 follows:

Gross	$4,851,594
Exp., ord. taxes, depr., etc	3,118,947
Depletion	48,734
Balance	$1,683,913
Other income	307,223
Gross income	$1,991,136
Dry holes, int., amort., etc.	606,810
Federal taxes	34,000
Net profit	$1,350,326
Preferred divs.	536,856
Surplus	$ 813,470

E. H. Buckner, president of Houston Oil Co., says in the annual statement that the company produced 2,185,707 bbls. of crude oil last year, had 82,680 bbls. of royalty oil and purchased 335,515 bbls.

Prairie Oil and Gas

Statement of Prairie Oil & Gas Co. as of December 31, 1925, shows total assets of $154,424,096 against $142,806,127 at the end of 1924. Profit and loss surplus was $79,435,262 compared with $66,033,624 on December 31, 1924.

Balance sheet of Prairie Oil & Gas Co. as of December 31, 1925, compares as follows:

Assets	1925	1924	1923
Real estate	$ 608,533	$ 623,386	$ 623,992
Personal property	34,344,478	29,501,935	18,963,016
Bills rec.	260,000	1,535,000	11,550,000
Accounts rec.	19,102,068	22,491,128	24,660,285
Securities	23,500,754	18,748,802	17,246,055
Mdse.	72,090,554	66,321,257	54,711,569
Cash	4,517,096	3,584,619	4,136,053
Total	$154,424,096	$142,806,127	$131,890,970
Liabilities			
Capital stock	$60,000,000	$60,000,000	$60,000,000
Bills and accounts payable	14,948,709	16,772,503	11,387,761
Cap. stock to emp.	40,125		
*Surplus	79,435,262	66,033,624	60,503,209
Total	$154,424,096	$142,806,127	$131,890,970

*After depletion, depreciation and taxes.

TOO LATE TO CLASSIFY

FOR SALE—Upton County oil leases near two drilling wells. Well located geologically in trend of production. Will divide 6,000 acres at $5 an acre for quick sales. Address Box 126, Best, Texas.

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE PRICES

Stocks—	Par	Clos. Quot. Mar. 8	Clos. Quot. Mar. 1	1926 High	1926 Low	1925 High	1925 Low	1924 High	1924 Low
American Republics	..	*69	*68	73	69	79¾	48	48	25
Associated Oil	25	58⅝	53½	59⅛	44⅜	47¼	32	34⅝	27⅝
Atlantic Ref., com.	100	99	101⅝	110	102	117½	95⅛	140½	78½
Barnsdall "A"	25	27	27⅜	33½	26½	33½	18⅜	29½	14
California Pet., com.	25	32½	32⅝	38⅛	30⅝	34⅝	23⅞	29	19⅞
General Petroleum	25	54¼	51⅝	59½	51¼	59	42	45	38⅝
Houston Oil	100	62	62¼	72	64	85	59	82½	61
Independent Oil & Gas	..	26¼	26¼	34	24½	41⅜	13½	16¼	5⅜
Indian Refining	10	11½	10⅝	13⅜	9½	14¼	5½	7	8⅞
Louisiana Oil	10	15	15⅞	19¼	16	23⅝	13⅝	..	..
Maracaibo	..	23⅝	23½	28⅞	24	35½	20⅜	37¼	25⅜
Marland	..	55⅛	55⅞	60¼	55	60⅛	32⅝	42	29
Mexican Seaboard	..	8⅜	8	12⅛	6	22½	9	25⅜	14⅛
Mid-Continent Pet.	..	30⅜	32	41	31	38	25⅜	40¼	22⅝
National Supply	50	60	59½	61¼	55½	71	54⅜	72½	54
Oil Well Supply	25	*33	32	36	31	38	33⅜	..	..
Pacific Oil	..	†54⅛	79⅞	83⅛	74¼	78½	51⅜	58¼	45
Pan. Amer. P. & T., com.	50	64	62½	76⅛	61½	83⅞	59½	65	44½
Pan. Amer., Western B.	..	37½	34	46	34	49⅜	37¼	..	..
Phillips Pet.	..	44⅜	44⅞	49⅛	42⅜	47⅛	36¼	42½	28½
Producers & Refiners	50	13½	13	17½	14¼	32⅝	12½	43½	29⅜
Pure Oil, com.	..	27½	27⅝	31	27½	33⅜	25⅛	30¼	20
Royal Dutch, N. Y., sh.	13.40	52	51⅞	57⅜	51⅜	57⅜	48¼	59½	40⅝
Shell Transport	10	44⅛	*44	48	44	49	39⅝	42	33
Shell Union, com.	..	25⅛	26¼	28⅛	25⅛	28⅜	21⅝	22½	15⅜
Simms Pet.	10	22½	23¼	28⅝	23⅜	28½	17⅜	24	10⅝
Sinclair Consolidated, com.	..	22½	23½	24½	20½	24⅞	17	17½	15
Skelly Oil	25	28⅛	29¼	32⅝	29½	32½	21⅜	29	17⅛
Standard of California	25	56	55½	62¼	55⅛	67¼	51½	68½	55⅛
Standard of New Jersey, com.	25	41⅞	41⅞	46⅜	41⅞	47⅛	38⅝	41½	33
Sun Oil Co.	..	34¼	36¼	41⅝	36½	43⅞	38⅛	..	..
The Texas Co.	25	51	51¼	54⅞	50⅜	56	42⅜	45⅝	37⅜
Texas Pacific Coal & Oil	10	13⅜	14¼	19½	14	23⅜	11	15¼	8¼
Tide Water oil (new)	..	36	37	39¼	39¼ ‡152	122	151	116¼	
Transcontinental	..	3½	3⅜	4⅜	3⅜	5⅞	3½	6¼	3⅜
Union Oil of California	25	40⅜	41	46	37¼	43⅜	33⅛	39	35¼
Union Tank, com.	100	*87	*85	94	85	‡134	118	132⅞	94
White Eagle Oil & Ref.	..	27	27¼	29⅜	26¼	31⅜	25⅝	29⅜	23½
Standard Oils									
Anglo-American Oil	£1	17½	17¼	19⅜	17⅜	26⅜	17½	18¾	14⅝
Borne Scrymser	100	*245	245	248	226	240	205	264	150
Buckeye Pipe line	50	55¼	*55½	59½	55⅜	72	53½	85½	51
Chesebrough Mfg. Co.	25	69½	*70	72¾	63	74	48¼	52½	29¼
Continental	10	22⅞	22	25⅞	21⅞	31½	21⅞	..	..
Crescent Pipe Line	25	*15¼	*15½	16	15½	17½	10	20	11⅜
Cumberland Pipe Line	100	*130	130	137	130	156	128	148	108
Eureka Pipe Line	100	*58	*57	63¾	60	96	61¼	105	74
Galena Signal, com.	100	27	27⅜	32½	27	68½	23½	69¾	52½
Humble Oil & Refining Co.	25	84	85	99⅝	85	99	42½	43⅜	36
Illinois Pipe Line	100	138	136½	142	134½	154½	124	161	123
Imperial Oil (Ltd.)	..	34	34⅝	38⅜	34½	39¼	27¼	119	99
Indiana Pipe Line	50	67⅜	67	67	58	84	57⅜	100	66
International Pet. Co.	10	31	31⅜	35¼	32	35⅜	22¼	24¾	16⅜
National Transit Co.	12.50	18⅛	*18½	20⅜	18	25½	16½	25⅝	20⅝
New York Transit	100	*48	49	50	39	79	50	97	54½
Northern Pipe Line	100	*76½	*75	80½	70⅝	88	67½	107½	72
Ohio Oil Co.	25	60½	61	67⅝	60¼	75¼	60	79½	53
Penn.-Mex. Fuel	25	*18	*18	23	16¼	44	19	35⅝	27
Prairie Oil & Gas	25	55⅜	55	60¼	55	65½	45⅞	269	193
Prairie Pipe Line	100	125⅝	125¼	127	123¼	129⅜	105	111	100
Solar Refining Co.	100	*200	202	212	201½	259	200	240	170
South Penn Oil	25	41	*42	50	44½	‡197	139	176	118
Southwest Pa. Line	100	55⅜	54	54½	47½	84	50	89	68
Southern Pipe Line	100	*70	73	74⅞	61½	103	63	100	80½
Standard of Indiana	10	63⅜	64	70½	64	70⅝	59½	69⅜	54¼
Standard of Kansas	25	30½	30½	36½	31	46	30¼	50½	32½
Standard of Kentucky	25	118	120½	134⅝	125½	137	114⅝	121⅞	101
Standard of Nebraska	100	231	235	254	239½	270	231	262	198
Standard of New York	25	32⅜	33⅜	37⅜	33½	48⅝	40	48	37⅜
Standard of Ohio, com.	100	335	336	362	336	*369	338	337½	277
Swan & Finch, com.	25	20	*18½	21	20	27	12	28	20
Vacuum Oil	25	98	99	109⅜	98½	109½	80½	83½	50½
Miscellaneous									
Gulf Oil Corp. of Pa.	25	83⅛	84	93⅜	84⅜	98¼	63½	67⅜	56

*Bid, no sales. ‡Old Stock. †Exrights.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

Mar. 8	55.02	Feb. 1	58.51	Dec. 28	59.40
Mar. 1	55.84	Jan. 25	57.96	Dec. 21	56.86
Feb. 20	58.23	Jan. 18	57.38	Dec. 14	56.89
Feb. 15	57.51	Jan. 11	57.55	Dec. 7	57.99
Feb. 8	58.96	Jan. 4	59.15	Nov. 30	56.93

COOPERATION KEYNOTE OF W. P. R. A. MEETING

(Continued from Page 22)

contrary to the demand for conservation of our oil resources.

He also urged that the refining industry agree on graded specifications for distillates used in oil burners. He expressed the opinion that in a short time burners would be perfected to the point where they would be able to burn distillates of much higher flash.

He explained that if the refiners would agree on specifications for several different grades, then the manufacturer would know definitely just what to recommend his customer and the jobber of distillates would be able to deliver the necessary grade. He said the present situation in which distillates of all types were being sold under one name had prevented a more rapid spread of burner installations. He estimated the potential market for home burners at 10,000,000 installations. C. L. Henderson, who presided at the technical meeting, in introducing the speaker said there were 600,000 installations at the present time.

Traffic

The directors in their first meeting after the election today approved the recommendation of the traffic managers who in their group session on Tuesday asked that the association act as a clearing house in the leasing and sale of tank cars belonging to the membership. Under the plan agreed upon members will advise the Tulsa headquarters whenever they have cars to lease or sell and these will be referred to members in the market for cars.

Annual Banquet

J. D. Collett, president of the Texas division of the Mid-Continent Oil and Gas Association, Fort Worth, presided as toastmaster at the annual banquet Wednesday night, taking the place of Amon G. Carter, publisher of the Fort Worth Star-Telegram, who was unable to attend. Sidney Samuels, widely known Fort Worth attorney and a frequent speaker at oil gatherings, with Mr. Malloy, previously mentioned, delivered the principal addresses. President Pielsticker in expressing his appreciation for the silver service presented to him urged the membership to give the new president the same cooperation they had shown him.

A resolution thanking the Fort Worth business and oil interests for the hospitality shown the association was heartily endorsed at the final business this morning.

Late Fields

(Continued from Page 29)

Davis is arranging to start a test north of the discovery well. Jacobs and others, Luling operators, have made a location a mile south. Kittle and others on survey 89, about 3 miles northwest, is down a few hundred feet with a big rig.

PANHANDLE AN AREA OF GREAT PROMISE

(Continued from Page 23)

Many of the wells may not respond to shooting as most of them have so far and on the other hand the results may exceed all of their fondest hopes in numerous cases. Further drilling is expected to open up far richer spots in the lime than have been found to date, just as it will probably define areas where the lime is too tight to yield oil in commercial quantities.

One well which gives exceptional promise of real production when it can be completed is the Dixon Creek Oil Co.'s No. 2 Smith, in Section 11, Block Y, Hutchinson County. This well was never drilled in and yet it has been flowing naturally from the top of the dolomite approximately 800 bbls. daily as nearly as the output can be estimated flowing into earthen storage.

Expect Mid-Continent Prices

In estimating the probable Panhandle development during the next few months, a feature which should not be overlooked is the price paid for the crude in the field. Competent observers feel that Mid-Continent posted prices will be paid for Panhandle oil within the next 60 or 90 days providing the crude market in general remains strong and the present pipe line program continues as outlined. It is argued that the Panhandle oil can be shipped to the Gulf Coast as cheaply as Oklahoma oil and that the entrance of several Mid-Continent crude purchasers will create enough competition to bring the price up. It is interesting to note in this connection that the Marland contract for 1,500,000 bbls. of oil from the Dixon Creek Oil Co. calls for a price equal to that of any other major purchaser in the field.

The price which Panhandle operators get for their crude, or expect to get, will undoubtedly exert a great influence on drilling activity. Conservative estimates, however, place the number of new wells which will be started every month during the spring and early summer as not less than 30 and probably higher than that. During the past three weeks 40 new ones were started. If Mid-Continent prices are paid for the oil, there is no way to estimate what proportions the drilling activity may assume by midsummer as the number of drilling locations in the field is so large as to be ridiculous.

A geologist and land man for one of the companies operating in the field tried to figure up how many locations there might be in the present active area, allowing 10 acres to the well and the total that he finally arrived at was 19,000. As mentioned before, nobody expects all of this to be productive, but consider the possibility that a fourth of it might prove up and then consider all of the other area that remains to be tested.

An interesting problem which will require much study is that of the most efficient well spacing for this field. The district where the big play is going on, of course, is in that part of the field where the production is found in a dolomite which contains about 50 per cent anhydrite. In some places it is extremely hard, resembling the Mississippi lime of Oklahoma and Kansas, but in most places it is extremely porous, the pores in a sample being easily visible to the naked eye.

Porosity of Formation

The high porosity is indicated by a peculiarity of the field which is its low and uniform gas pressure. Throughout the length and breadth of the vast Amarillo fold, the rock pressure has been invariably the same, regardless of the depth at which the gas is found, whether 100 feet or 1,200 feet above sea level. The pressure is likewise the same regardless of the distanc from the axis of the Granite Ridge although the amount of gas diminishes directly with this distance. This uniformity is a good indication of extreme porosity of the formations as the gas and oil has been evidently free to migrate throughout the structure.

Because of this high porosity, some geologists believe that one well will drain far more than 10 acres, and some of them go so far as to say that one well to a forty is sufficient to recover the oil, any additional holes being a waste of money. Additional data will be necessary to determine that, however.

The rock pressure is not only uniform but it is very low, averaging about 450-60 pounds. This fact has led some companies contemplating entering the lists to consider lifting costs. As the stucture is punched with a continually increasing number of holes, the gas which is now flowing a number of the wells will probably diminish so that some form of air or gas lift will be necessary. One of the practical problems in the field now is to shut off the gas from above, the porosity of the formation or bad casing seats allowing it is some cases to get into the hole and cut the oil. The gas is very dry and while about 2,000,000 feet of it is desirable to flow the well, any excess amount cuts down the gravity of the oil materially. A few operators have punched holes in their casing to let in a little gas to assist the flow but this is considered bad practice where it can be avoided. The average lifting cost in the field now, where there is not sufficient gas to flow the well, is about 30 cents a barrel.

Low Drilling Costs

Drilling costs and the time necessary to complete a well in the Hutchinson County Field are considerably less than in the Granite Wash district of Carson County where the volume of gas is great. Wells have been drilled to the top of the pay in 30 days in the lime district, although the average with good luck is probably 35 to 60 days and a contractor figures on 90 days, allowing for some fishing troubles and other contingencies.

We are talking about a vast area, of course, covering various kinds of conditions and statements that apply in one part of this "proven" area do not apply in another. There is quite a play headed across the Canadian River to the north for instance, and some wells are drilling close to the river on both sides. They have difficulties of their own. Hauling expenses are quite a bit higher across the river for one thing. Up there, some of the wells encounter practically no gas above the oil. Down in the Granite Wash district the volume is tremendous even though the pressure is the same in both areas. In the Canadian River vicinity, drilling through the first 400 feet of quicksand requires all the skill the drillers command.

The average cost of a completed well, however, has been approximately $35,000 in the past, while turnkey jobs have been contracted as low as $30,000 using new material. The average contract price per foot has been about $5 lately but is going down in all probability. One of the big companies states that it will pay no more than $3.50 in the future in the area where comparatively few difficulties are encountered.

Several peculiar difficulties are encountered in drilling the Panhandle wells. Many wells are being drilled and will continue to be drilled where the gas volume is great and this gas is especially hard to handle because it is hydrogen sulphide and is highly dangerous.

While this gas, which comes from the lime above the oil and is separated from the oil pay zone, contains a large amount of sulphur, the crude itself contains only a trace of sulphur, averaging about .05 per cent.

Another peculiarity encountered in drilling is due to the 50 per cent more or less of anhydrite in the lime series. Anhydrite, of course, becomes gypsum when it is slaked with water causing it to swell. Drillers at first didn't know how to account for the swelling of the hole, sometimes sufficient to cause the bit to stick during the drilling of a screw in an hour or so. When the hole was underreamed, too, it sometimes did not seem to do any good and the driller thought something had caved in on him. That is overcome now by the use of oil to clean out and mud off gas below the 8-inch pipe. If leaky pipe allows water in the hole, however, it sometimes almost plugs it up.

In the river district, due to the 400 feet of quicksand, operators start the hole with 20-inch pipe. The Canadian River Oil Co. recently started a well with 12½-inch casing, and it is probable that this will be possible in a large part of the developing area.

One of the most interesting tests in the field will be the first well that the Marland Oil Co. of Texas starts on its river bed lease. The location has already been staked in a part of the river north of Section 76, Block 46, where Marland owns the land on both sides.

The gravity of the oil in the Hutchinson County lime area is higher than the Carson County granite wash production. The former tests from 38 to 41 degrees, averaging about 39 degrees, while the latter runs from 35.6 to 39 degrees and averages about 37 degrees. As an example of how the gas can cut the gravity, the Gibson Oil Co., (now Phillips Petroleum Co.) No. 1 Whittenburg, in Section 62, Block 46, Hutchinson County, has practically no gas with the oil and the gravity of the oil is 40 degrees. The same company's well in Section 63 also has little gas and the gravity tests 41 degrees. The Gulf Production Co.'s No. 1 Whittenburg in Tract 1 of the Mary Whitley Survey, has considerable gas and the gravity is about 36 degrees. All of these wel's are within a half-mile of each other.

Following is a distillation test of Carson County crude:

Gravity	38.4 degrees
Color	Black
Motor gasoline	20%
Kerosene	12%
Gas oil	5.1%
Lub Oil	5.9%
Bottoms	45.5%
Loss	7%

Cost of a Well

Following is a detailed cost of a drilling well in the northern part of the lime area of Hutchinson County:

1 84-foot standard wood, calf-wheel derrick, with 6-in. Ideal rig irons	$5,000
Casing:	
Amount left in hole	10,000
Depreciation on casing pulled	2,000
Tubing and rods	1,200
Drilling operations expense: Includes wages, miscellaneous drilling expense, depreciation on equipment, rental on tools, etc.	9,000
Teaming and trucking	4,000
Water plant	1,000
Tanks	1,000
Camp buildings	1,000
Miscellaneous	1,000

INLAND TEXAS' POSITION REGARDING REFINING

(Continued from Page 28)

and comparing the output of gasoline (Line 1) with the output of fuel oil (Line 2) it will be noticed that they ran closer together in 1923 than either before or since.

While the refineries in the Oklahoma-Kansas area turn about 2½ per cent of the average barrel of crude oil into lubricating oil, the inland Texas refineries have made so little lubricating oil, except during the last 2 years, that the lubricating oil line had to be omitted from the accompanying graph.

Some idea of how the average barrel of crude oil has been "split up" by the refineries of this area can be gotten from the small graph herewith.

TIDEWATER-ASSOCIATED CO. MAY BE EXPANDED

(Continued from Page 24)

merger of Tide Water Oil and Associated is regarded as the beginning of steps to meet competition with the Shell Union Oil Corp., a Dutch-Shell subsidiary, which before this has been the only large oil company with equally strong properties east and west of the Rocky Mountains.

It is further reported that the Tide Water-Associated deal will be followed by the acquisition of another large property centering in the Mid-Continent Field. The Marland Oil Co., which made a bid for Associated Oil, is spoken of as the most suitable property to properly balance the Associated-Tide Water merger. Marland Oil is a large producer of crude oil in the Mid-Continent Field, has important refining facilities, and what is of great importance, would provide the company with terminal facilities on the Gulf Coast. The Barnsdall-Waite Phillips properties are also spoken of as possible additions to the combination.

PENNSYLVANIA INDUSTRY IS UNDER INVESTIGATION

By Charles E. Kern

New York Bureau, The Oil and Gas Journal, 30 Church St., New York

WASHINGTON, D. C., Mar. 8.—The Department of Justice has under investigation conditions in the Pennsylvania oil industry and for some time has had special agents gathering information. At the office of the Attorney General, however, a policy of absolute silence is maintained in respect to this investigation. Up to this time no statement has been given out and none can be obtained here through official channels.

OSAGE SALE OFFERS MANY WILDCAT PLAYS

(Continued from Page 35)

1,165,749 bbls., was purchased for $500 at one of the earliest of the west side sales, the purchase price represents a little over 1-25 of a cent per barrel, which any one will say was cheap enough. However, it was not all beer and skittles for the Carter as it paid $500,000 for the northwest quarter of Section 12-26-5, which only produced 5,528 bbls. of oil, making the bonus price per barrel $90 and odd cents. On the whole, it paid $4,602,300 for the 23 properties it operates alone, 3,680 acres, which had produced 15,817,974 bbls., or 4,298 bbls. per acre, but the 2,840 acres of productive property produced 5,570 bbls. per acre. The total bonus price for the 23 quarter sections represented an outlay of 29 cents per bbl. of gross production thus far recovered, the lowest bonus price paid by any of the large operators in the field.

The Cosden Oil & Gas Co., now the Mid-Continent Petroleum Corp., paid very high prices for two leases, $1,790,000 for one and $1,955,000 for another, and neither of the leases has shown signs of a return of the money with profit. The company paid $4,981,000 in bonus for 1,120 acres which had produced 3,549,281 bbls. from 106 wells. The company has had recovery of 3,169 bbls. per acre, but 3,348 bbls. per acre from the 1,060 productive acres. It had cost the company $1.40 in bonus for every barrel of oil thus far recovered.

Phillips Petroleum's "Good Buy"

The Phillips Petroleum Co. did not get in on any of the sales where leases were bought for less than $1,000, and its cheapest piece cost the company $6,000. This property with five producing wells on it had returned 213,927 bbls. in gross production since last July. The biggest producing lease, the southwest quarter of Section 11-27-5, for which it paid $1,765,000, is credited with 2,017,631 bbls. from 16 wells, which is 12,609 bbls. per acre. In bonus price the gross production of this property cost the company 87 cents per bbl. The company's bargain lease, the southeast quarter of Section 2-27-5, which is credited on the accompanying map and table with a production of 213,927 bbls. from five wells, had up to February 24 a production of 295,309 bbls. from eight wells. As it cost the company only $6,000 at the sale last March it will be seen that it is one of the very few rare bargains of Burbank. Up to February 24 the bonus price per barrel of production was only 20 cents, which will be greatly reduced as the lease, which had not yet reached its peak, increases in production. It is likely that this property will have been bought at less than 1 cent per bbl. of production. The lease just north of it and another east of it will be offered for sale at next week's Osage sale, and they are expected to command high prices. The Phillips Petroleum Co. bought 14 leases by itself and as many more in partnership with other companies. The 14 leases of its own comprise 2,240 acres which had produced 9,860,680 bbls. from 175 wells. The acreage cost $5,376,000. Its leases have produced 4,402 bbls. per acre, but the 1,750 producing acres have yielded 5,635 bbls. per acre. Its bonus prices paid represent 55 cents per bbl.

The Phillips Petroleum Co. and Skelly Oil Co.'s 13 leases cost them $10,022,100 in bonus price and have produced 13,454,075 bbls. These companies bought one low-priced lease, the southwest quarter of Section 25-27-5, for $6,100, which has yielded 792,110 bbls. from 10 wells. The bonus price paid represents less than four-fifths of a cent per barrel of gross production. The Phillips-Skelly combination did not buy any lemons: high-priced leases which yielded little or no oil, but it paid $7,431,000 for six leases which had yielded 8,888,789 bbls., the bonus price representing about 84 cents per bbl. The combined companies from their 2,080 acres had an average yield of 6,468 bbls. per acre, but the 1,800 acres on production have yielded 7,474 bbls. per acre. The best lease in this group has been the southwest quarter of Section 24-27-5, which had yielded 2,128,670 bbls. from 16 wells, but the northeast quarter of Section 24-27-5 had produced 1,978,281 bbls., giving the Phillips-Skelly combination a yield of 12,834 bbls. per acre from a half section of land. Their total bonus price of $10,022,100 paid represented a shade over 70 cents per bbl. of production.

The Prairie Oil & Gas Co. got into Burbank's million-dollar class in the past year, two of its leases having passed that figure in production, the northwest quarter of Section 4-26-6, costing $360,000 and which had produced 1,090,889 bbls., and the southeast quarter of Section 32-27-6, costing $800,000 and which had produced 1,147,864 bbls. The company paid $5,260,000 for 10 leases, representing 1,600 acres which have produced 7,086,109 bbls. from 126 wells, or 4,429 bbls. per acre for the 1,600 acres and 5,600 bbls. per acre for the 1,260 acres of producing territory. Its bonus represented an outlay of 74 cents per bbl. of oil produced.

Pioneers Cleaned Up

The Marland Oil Co. opened Burbank in May, 1920, with a well in the northeast quarter of Section 36-27-5. Later it sold a half of its properties in the Burbank Field to the Roxana Petroleum Corp. and this combination had produced 2,699,220 bbls. from three leases that cost only $15,600. The discovery lease cost $2,000, which represents about 13-100 of a cent per barrel of production. The bonus price paid for the three leases represents a shade over one-half a cent per barrel of production.

Ike Simons, one of the earliest birds in the Burbank Field, picked up two lonesome wildcats at different sales, paying $800 for the northeast quarter of Section 5-26-6 and later putting $3,100 on the barrel head for the southwest of Section 1-26-5. Taking in some old friends as partners—Clint and Frank Moore, Harry Gaffney and the Emery family—Mr. Simons developed the properties and on the $800 piece had, up to the close of this report, recovered 1,209,206 bbls. in gross production, a yield of 7,558 bbls. per acre. The bonus price represents a shade less than 7-100 of a cent per barrel.

Fortunate Purchasers

The Prairie Oil & Gas Co. paid $800,000 for the quarter section north of the Simons $800 piece, and $360,000 for the quarter section east of it. The leases west and south were bought early and went for $900 and $500, respectively. In fact, Section 5-26-5 was the best paying acreage, all things considered, in the field as the bonus price paid was only $2,900, or about $4.50 per acre, and the four quarter sections had produced up to the close of this report a total of 4,254,534 bbls. gross. The bonus price on the whole section amounted to so little that the producers have thus far received a return of about 1,467 bbls. for each dollar the leases cost them in bonus. In this rich return the Devonian Oil Co., the Carter Oil Co., Gypsy Oil Co. and Simons, Moore and others shared.

The richest producing section in Burbank is the Section 24-27-5, two quarters of which are owned by the Gypsy Oil Co. and two by the Phillips-Skelly partnership. This 640 acres had produced 9,131,036 bbls., but it cost in bonus $5,160,000. These leases were bought at the rising tide of Burbank prices. Every interested operator felt they would be big producers of oil and the competition for them was general and keen among the companies that could afford to put up a million or more for a 160-acre tract of land, but the return in oil thus far represents 1.77 bbls. for each dollar in bonus, which fades into insignificance when compared to the 1,467 bbls. in Section 5-26-6.

Sinclair a Winner

The Sinclair Oil & Gas Co. was among the bargain buyers in Burbank and two of its best leases cost $1,500 and $5,800, respectively. The northeast quarter of Section 1-26-5, which was picked up by R. A. Griffith, then vice president of the company, for $5,800, had returned 1,109,700 bbls. of oil and an even cheaper piece which Mr. Griffith bid in with a little competition for $1,500, has returned 1,383,976 bbls. The bonus price on the northeast quarter of Section 1-26-5 represents 45-100 of a cent per barrel, while that on the southwest of Section 36-27-5 represents only 11-100 of a cent per bbl. The Sinclair Co. never got so worked up over Burbank as to pay $1,000,000 or more for a lease, and its highest bonus price was $800,000 for the northeast quarter of Section 15-27-5, which lease has yielded 1,546,633 bbls., and is the most productive list in the Sinclair group. The company paid $3,797,300 for nine leases, or 1,440 acres, which had produced 8,767,585 bbls., or 6,089 bbls. per acre. Its total bonus price paid represents about 43 cents per bbl. of production.

The Skelly Oil Co. bought only one expensive lease alone. Most of its Burbank operations are in partnership with the Phillips Petroleum Co. The four leases it operates by itself cost $1,350,500 and have returned 933,257 bbls. of production. It has only 27 wells on the 640 acres. The four leases have produced at the rate of 1,458 bbls. per acre, but the producing acreage has shown a return of 3,456 bbls. per acre. The bonus price paid represents $1.44 per barrel of oil produced.

CRUDE PRODUCTION BY LEASES

Production of the Burbank Field in Osage and Kay Counties, Oklahoma, from its beginning in May, 1920, to February 1, 1925:

Owner, location of lease and date of first production—	Bonus Price	No. Wells	Total Prod. Bbls.
Carter Oil Co.:			
NE 12-26- 5 September, 1922	$ 325,000	5	167,706
NE 20-26- 6 March, 1925	42,000	9	195,503
NW 21-26- 6 March, 1925	176,000	16	485,415
NW 12-26- 5 November, 1922	500,000	2	5,528
SE 5-26- 6 February, 1921	500	16	1,165,749
SE 8-26- 6 March, 1922	351,000	16	706,618
NE 8-26- 6 November, 1921	300,000	16	688,976
NE 9-26- 6 November, 1920	500	10	563,373
NW 9-26- 6 September, 1920	3,600	5	476,061
SW 9-26- 6 January, 1921	3,000	11	899,857
SE 9-26- 6 February, 1921	3,000	16	988,504
NE 13-27- 5 September, 1924	230,000	16	499,288
NW 16-26- 6 December, 1920	5,400	16	883,211
NW 13-27- 5 September, 1924	405,000	16	206,091
SW 16-26- 6 June, 1923	385,000	16	886,347
SE 1-26- 5 January, 1921	5,200	13	1,371,787
SE 16-26- 6 June, 1923	127,000	15	653,702
NW 11-27- 5 September, 1924	310,000	16	916,678
NE 22-27- 5 June, 1923	1,025,000	16	2,295,926
NW 17-26- 6 November, 1922	235,000	6	96,136
SW 31-27- 6 February, 1921	7,100	16	793,237
SE 31-27- 6 February, 1921	3,000	15	867,465
NE 33-27- 6 August, 1922	160,000	1	5,813
Total	$4,602,300	284	15,817,974
Comar Oil Co.:			
NE 2-26- 5 November, 1922	410,000	7	262,927
Mid-Continent Petroleum Corp.:			
SW 14-27- 5 May, 1924	1,790,000	16	331,338
NE 6-26- 6 November, 1921	310,000	16	655,398
SE 14-27- 5 May, 1924	1,955,000	16	629,717
NW 8-26- 6 December, 1921	115,000	16	598,076
SW 8-26- 6 April, 1922	300,000	15	376,022
NE 17-26- 6 May, 1922	500,000	16	546,374
SE 17-26- 6 June, 1923	11,000	11	412,356
Total	$4,981,000	106	3,549,281
Devonian Oil Co.:			
SW 5-26- 6 April, 1921	700	16	941,379
Gypsy Oil Co.:			
NW 5-26- 6 May, 1921	900	15	938,200
NW 7-26- 6 August, 1922	175,000	7	274,668
SE 3-27- 5 May, 1924	151,000	7	74,564
NW 24-27- 5 March, 1923	1,310,000	16	2,802,697
SE 24-27- 5 September, 1922	1,600,000	16	2,221,478
NW 19-27- 6 March, 1923	1,100,000	16	1,399,823
SE 13-27- 6 September, 1922	1,050,000	16	1,680,825
SW 28-27- 6 June, 1922	280,000	9	411,416
NW 28-27- 6 December, 1922	205,000	1	335
SE 28-27- 6 August, 1922	61,000	1	9,092
NW 29-27- 6 September, 1922	1,000,000	16	1,198,902
NE 31-27- 6 January, 1921	1,300	16	1,543,884
NW 32-27- 6 January, 1922	226,000	16	863,340
NE 10-27- 5 June, 1923	33,000	16	953,036
SE 22-27- 5 June, 1923	670,000	11	668,431
NE 23-27- 5 June, 1923	1,195,000	16	1,528,601
Total	$9,058,200	195	16,569,202
Kewanee Oil & Gas Co.:			
NE 6-26- 6 March, 1922	205,000	10	396,853
SE 7-26- 6 November, 1922	275,000	2	21,302
SE 18-27- 6 May, 1924	285,000	13	209,426
Total	$ 765,000	25	627,581
Laurel Oil & Gas Co.:			
NW 1-26- 5 May, 1921	3,000	16	860,102
Lewis Oil Co.:			
NE 21-26- 6 March, 1925	99,000	15	352,947
Loraine Petroleum Co.:			
SE 6-26- 6 February, 1922	100,000	15	486,427
Midland Oil Co.:			
SE 13-27- 5 April, 1924	1,580,000	16	533,484
NW 15-26- 6 May, 1922	61,000	5	194,864
NW 14-27- 5 May, 1924	1,990,000	16	399,881
Total	$3,631,000	37	1,128,229
Phillips Petroleum Co. and Delmar Oil Co.:			
SE 10-27- 5 June, 1923	41,000	16	2,383,409
Mid-Kansas Oil & Gas Co.:			
SE 35-27- 5 October, 1922	665,000	13	704,154
SE 33-27- 6 April, 1922	115,000	3	97,322
SE 15-27- 5 June, 1923	1,325,000	16	1,296,659
NW 26-27- 5 June, 1924	670,000	9	280,480
Total	$2,775,000	41	2,378,615
Phillips Petroleum Co.:			
SE 2-27- 5 July, 1925	6,000	5	213,927
NE 11-27- 5 March, 1925	335,000	16	540,568
NW 12-27- 5 May, 1925	216,000	16	744,002
SW 12-27- 5 February, 1925	335,000	16	827,302
SW 17-27- 6 September, 1925	31,000	2	13,034
SW 11-27- 5 May, 1924	1,765,000	16	2,017,631
NE 35-27- 5 October, 1922	495,000	12	461,784
NW 20-27- 6 June, 1924	75,000	6	76,797
NW 23-27- 5 June, 1923	1,005,000	16	1,753,374
SW 32-27- 6 October, 1921	305,000	16	984,232
SE 11-27- 5 September, 1924	505,000	16	1,349,159
NE 14-27- 5 September, 1924	225,000	16	215,054
NE 18-27- 6 September, 1924	54,000	16	541,261
SE 20-27- 6 July, 1924	24,000	6	122,555
Total	$5,376,000	175	9,860,680
Phillips Petroleum Co. and Skelly Oil Co.:			
NE 7-26- 6 May, 1922	155,000	8	257,377
SE 23-27- 6 April, 1923	1,101,000	14	1,226,255
NE 24-27- 5 March, 1923	1,245,000	16	1,978,281
SW 24-27- 5 October, 1922	1,005,000	16	2,128,670
NE 25-27- 5 June, 1922	1,335,000	16	804,179
NW 25-27- 5 June, 1922	1,160,000	16	879,312
SW 25-27- 5 February, 1922	6,100	10	792,110
SE 25-27- 5 August, 1921	52,000	13	920,995
SE 26-27- 5 November, 1922	805,000	13	476,543
NE 26-27- 5 January, 1924	310,000	14	528,719
SW 19-27- 6 September, 1922	1,585,000	16	1,872,092
NE 29-27- 6 September, 1922	600,000	12	800,476

NW 30-27- 6	April, 1922	663,000	16	789,066
	Total	$10,022,100	180	13,454,075
	Prairie Oil & Gas Co.:			
SW 15-26- 6	May, 1925	25,000	4	15,771
SE 12-27- 5	May, 1925	300,000	16	534,289
NW 4-26- 6	October, 1921	360,000	16	1,090,889
NW 10-26- 6	October, 1921	200,000	5	575,354
SW 10-26- 6	December, 1921	200,000	5	421,316
NE 30-27- 6	March, 1922	700,000	16	906,961
SE 30-27- 6	December, 1921	250,000	16	718,036
SE 32-27- 6	March, 1922	800,000	16	1,147,864
SW 33-27- 6	April, 1922	600,000	16	775,927
SW 13-27- 5	May, 1924	1,825,000	16	899,702
	Total	$5,260,000	126	7,086,109
	Peters & Oliphant:			
NW 17-27- 6	October, 1923	82,000	3	166,205
	Producers & Refiners Corp. and Marland Oil:			
NE 16-26- 6	January, 1922	136,000	13	413,888
	Producers & Refiners Corp., Marland Oil Co. & Comar Oil Co.:			
SW 8-27- 6	October, 1925	40,000	1	114,233
	Producers & Refiners Corp.:			
NW 31-27- 6	November, 1920	2,100	16	1,461,599
	Roxana Petroleum Corp.:			
SW 4-26- 6	February, 1921	251,000	12	1,071,246
	Roxana Petroleum Corp. and Marland Oil Co.:			
NW 6-26- 6	April, 1921	6,600	15	555,784
NE 36-27- 5	May, 1920	2,000	14	1,567,856
SE 36-27- 5	December, 1920	7,000	13	575,580
	Total	$ 15,600	42	2,699,220
	Simons, Moore and others:			
SW 1-26- 5	February, 1922	3,100	13	414,479
NE 5-26- 6	April, 1921	800	16	1,209,206
	Total	$ 3,900	29	1,623,685
	Sinclair Oil & Gas Co.:			
NE 1-26- 5	May, 1921	5,800	15	1,109,700
NE 15-27- 5	June, 1923	800,000	16	1,546,633
SW 36-27- 5	October, 1921	1,500	17	1,383,976
NE 19-27- 6	March, 1923	615,000	16	526,344
SW 20-27- 6	March, 1923	415,000	16	676,602
SW 29-27- 6	March, 1922	650,000	16	933,590
SE 29-27- 6	June, 1922	410,000	16	1,031,051
NE 32-27- 6	March, 1922	600,000	16	1,060,129
NW 33-27- 6	June, 1922	300,000	16	499,560
	Total	$3,797,300	144	8,767,585
	Skelly Oil Co.:			
SW 2-27- 5	April, 1925	10,500	5	24,591
SW 26-27- 5	July, 1924	395,000	3	20,223
SW 23-27- 5	June, 1923	740,000	15	828,635
NW 35-27- 5	July, 1924	205,000	4	59,808
	Total	$1,350,500	27	933,257
	Tidal-Osage Oil Co.:			
SE 4-26- 6	October, 1921	95,000	11	546,703
SW 6-26- 6	February, 1921	206,000	16	761,051
	Total	$ 301,000	27	1,307,754
	Tidal Osage and Carter Oil Co.:			
SW 30-27- 6	August, 1921	26,000	15	1,003,913
	Twin State Oil Co.:			
SW 18-27- 6	May, 1924	605,000	16	568,547
NW 36-27- 5	February, 1921	800	8	245,682
	Total	$ 605,800	24	814,229
	The Texas Co.:			
NW 18-27- 6	September, 1924	141,000	16	345,114
	Total Osage County	$53,876,500	1,623	96,480,865

KAY COUNTY

		No. of Acres	No. Wells	Total Prod. Bbls.
	Comar Oil Co.:			
S½ SW	4-27- 5	80	2	5,061
N½ SW	10-27- 5 May, 1923	80	8	1,273,251
N½ SW	15-27- 5 April, 1923	80	8	1,139,231
S½ NE	21-27- 5 April, 1923	80	1	39,242
	Total	320	19	2,456,785
	Dye & Tomlinson:			
S½ SW	15-27- 5 January, 1923	80	8	1,002,085
	Mid-Kansas Oil & Gas Co.:			
N½ NE	21-27- 5 March, 1923	80	8	57,428
N½ SE	9-27- 5 May, 1923	80	2	1,688,088
	Total	160	10	1,745,516
	Phillips Petroleum and Skelly Oil:			
W½ SW	9-27- 5 July, 1924	80	1	14,784
W½ NW	22-27- 5 March, 1923	80	4	238,763
SE	16-27- 5 April, 1923	160	7	191,800
S½ SW	22-27- 5 June, 1925	80	1	112
E½ NW	22-27- 5 March, 1923	80	8	817,999
	Total	480	21	1,263,458
	Twin State Oil Co.:			
NW	15-27- 5 April, 1923	160	15	1,425,311
	Carter Oil Co.:			
S½ SW	10-27- 5 June, 1923	80	8	1,851,077
SW NW	3-27- 5 January, 1924	40	3	118,998
	Total	120	11	1,970,075
	Mid-Continent Petroleum Corp.:			
NW	10-27- 5 May, 1923	160	16	1,670,942
	Gypsy Oil Co.:			
W½ NW	4-27- 5 September, 1924	80	1	1,491
SE	4-27- 5 May, 1923	160	16	1,175,083
E½ NW and NE SW	16-27- 5 May, 1923	120	2	119,477
	Total	360	19	1,296,051
	Phillips Petroleum Co.:			
NW	3-27-5 May, 1924	120	2	8,316
NE¼ and N½ NW	9-27-5 August, 1923	240	19	2,411,996
S½ SE	9-27-5 May, 1923	80	8	1,371,546
W½ NE	16-27.5 August, 1923	80	3	283,502
	Total	520	32	4,075,360
	Sinclair Oil & Gas Co.:			
E½ SW	9-27-5 May, 1923	80	5	451,245
	George S. Bole:			
E½ NW	4-27-5 August, 1923	80	3	464,300
	Laurel Oil & Gas Co.:			
N½ SW	4-27- 5 August, 1923	80	5	183,869
	Prairie Oil & Gas Co.:			
S½ NW	9-27- 5 January, 1924	80	4	330,351
	Pure Oil Co.:			
E½ NE	16-27- 5 August, 1923	80	5	333,823
	Roxana Petroleum Corp.:			
NE	4-27- 5 August, 1923	160	8	431,031
	The Texas Co.:			
SW	3-27-5 October, 1923	160	16	579,558
	Total Kay County	3,080	197	19,679,760
	Grand Total Burbank Field	.....	1,820	116,160,625

CANADA'S MOTOR IMPORTS

Exports of automotive products from the United States and Canada for 1925 increased 48 per cent over the value of 1924 exports, according to a report issued by the Department of Commerce. On the basis of this figure, according to the department, automotive products in export trade for the year exceeded any other fabricated product and their position was third among exported products of all kinds, being exceeded only by raw cotton and refined mineral oils.

PANHANDLE OPERATIONS

(Continued from Page 29)

Block 5, 1,510 feet, drilling; McFarland-Thomas' No. 1 G. W. Wittier, Section 1, Block 7, timbers; Marland Oil Co.'s No. 1-A Burnett, Section 116, Block 5, 2,475 feet, drilling; Marland Oil Co.'s No. 1-B Burnett estate, Section 101, Block 4, 1,280 feet; The Texas Co.'s No. 4 M. C. Burnett, Section 113 Block 5, 2,792 feet, red rock; Young & Pattrick No. 1 J. C. McConnell, Section 65 Block 4, tools.

Collingsworth County

Continental Development's No. 1 Hughes, Section 79, Block 11, 3,215 feet, granite wash.

Gray County

Anderson and others' No. 1 Beavers, Section 124, Block B-2, 3,795 feet; Clark & Baldridge's No. 1 Merten, Section 82, Block 3, building rig; Empire's No. 1 Heathbolt, Section 152, Block 3,195 feet, S. L. M. TD., swabbing 12 bbls. in two hours; The Texas Co.'s No. 1 Brown, Section 137, Block 3, 610, feet, fishing; The Texas Co.'s No. 2 Saunders, Section 3, 235 feet, shut down; Wilcox Oil & Gas No. 2 Combs & Worley, Section 59, Block 3, 1,900 feet; Wilcox Oil & Gas No. 2 Worley, Section 62, Block 3, 2,865 feet, cement cave; Young and others' No. 1 Bryan, Section 188, Block 3, 3,272 feet, shut down.

Hutchinson County

American Refining Co.'s No. 1 Weatherly, Section 18, Block Y, 3,327 feet, pulled in rig, lifting pipe; American Refining Co.'s No. 1 Whittenberg, Section 2, Block B-4, 2,350 feet; Badger Oil Co.'s No. 1 Lewis, Section 8, Block M-23, 665 feet; Bear Creek Oil No. 1 E. E. Watkins, Section 10, Block M-21, cellar; Canadian River No. 2 Kingsland, Section 4, Block Y, rig; Canyon Oil (Parks) No. 1 Whittenberg, Section 12, Block Y, 2,340 feet, drilling; Canyon Oil (Parks) No. 2 Whittenburg, Section 13, Block Y, 2,800 feet, shut down; Cockrell-McIlroy No. 1 H. E. Smith, Section 14 Block Y, spudding in; same interests No. 2 H. E. Smith, Section 14 Block Y, building rig; Crosbie et al No. 1 Whittenberg, Section 12 Block Y, 2,750 feet, fishing for bit; Currie & Phillips No. 1 Smith, Section 14 Block Y, 2,840, running 8-inch casing; Dixon Creek Oil Co. No. 1 Smith, Section 5 Block Y, cellar; same company's No. 2-A Smith, Section 11 Block Y, 2,885 feet, production, 350 bbls per day, flowing—not shot; same company's No. 4 and No. 5, Section 11 Block Y, spudding in; same company's No. 6 (?) Section 11 Block Y, timbers; same company's No. 5, Section 11 Block Y, cellar; Douglas Oil No. 1-B Whittenberg, Section 15 Block X-02, rig; Drysdale Oil No. 1 Weatherley, Section 17 Block Y, 3,115 feet, 8-inch, first show oil at 2,968 feet, second at 3,050-57, good show; Dunnigan & Miller's No. 1 Whittenberg, Section 13 Block Y, 2,725 feet; Fly-Blackburn's No. 1 Weatherley, Section 19 Block Y, rigging up; Gates No. 1 Kingsland, Section 4 Block Y, spudding 40 feet; Gates' No. 2 Kingsland, Section 4 Block Y, spudding; Gibson-McMiller's No. 1 Kingsland, Section 6 Block B-4, 450 feet; Gibson Oil's No. 1 Johnson Bros., Section 74 Block 46, rig; Goelding & Phillips' No. 1 Hodges, Section 5 Block M-26, 600 feet; Gulf Production Co.'s No. 1 Cockerell, Section 3, Block Y, 2,915 feet; Gulf Production's No. 1 Whittenberg big subdivision, Section 1, Mary Whitley Survey, 2,943 feet, 225 bbls. per day natural; Gulf Production Co.'s No. 2 Whittenberg, same section, rig; J. R. Phillips-Heywood's No. 1 Smith, Section 14, Block Y, spudding in; Heywood's No. 1-A Cockerell, Section 10, Block B-3, spudding in; Herring and others' No. 1 Smith, Section 5, Block Y, 2,858 feet, shot with 210 quarts, hole bridged, 60 bbls. per hour first 4½ hours.

Holmes' No. 1 Smith, Section 12, Block Y, drilling at 2,385 feet; W. H. Holmes' No. 5 Smith, Section 5, Block Y, rig; No. 6, same section, building rig; W. L. Kingsland's No. 1 Kingsland, Section 6, Block Y, location; Lenox & Storer's No. 1 Smith, Section 11, Block Y, drilling at 2,850 feet; J. H. Lenox's No. 1 Johnson Brothers, Tract No. 2, Mary Whitley rig; Lucky 10 Oil Co.'s No. 1 Smith, Section 11, Block Y, rigging; Middleton's No. 1 Smith, Section 15, Block Y, rig; No. 2 Smith, rig; No. 2 Weatherley, Section 18, Block Y, fishing for pipe at 3,248 feet; McIlroy Brothers' No. 3 Smith, Section 5, Block Y, rigging; McKinney's No. 1 Bayer, Section 17, Block Y, total depth 3,084 feet, will shoot; McMan Oil & Gas Co.'s No. 1 Whittenberg, Section 66, Block 46, rig; Miller and others' No. 1 Whittenberg, Section 13, Block Y, fighting cave, show of oil at 2,932 feet; Native Oil's No. 1 Johnson Brothers subdivision, Section 4, shot with 70 quarts at 2,969 feet, swabbed 95 bbls. in two hours, estimated 150 bbls.; Newby Oil's No. 1 Cockerell, Section 3, Block Y, 2,000 feet; New Domain's No. 1 Kingsland, Section 4, Block Y, rig; Phillips Petroleum's No. 1 Smith-Jenny Wright, Section 5, Block Y, 1,275 feet; No. 2, 2,985 feet, top pay 2,935 feet, swabbed 100 bbls., may shoot; No. 3 Jenny Wright, Section 5, 1,890 feet; No. 4 Jenny Wright, Section 5, 379 feet; Phillips-Gibson's No. 1 Whittenberg, Section 63, Block 46, 2,902 feet, 41 feet pay, swabbed 40 bbls. 41 gravity in 18 hours; No. 2 Whittenberg, Section 62, Block 46, 2,042 feet; No. 1 Subdivision 23, Mary Whitley, 2,660 feet; Phillips Petroleum Co. and South Hutchinson's No. 2 Whittenberg, Section 13, Block Y, shut down at 2,880 feet waiting storage; No. 3, standardizing at 2,130 feet; Phillips-Pulaski's No. 1 Cockerell, Section 2 Block Y, cleaning out at 1,995 feet; No. 1 Johnson Brothers, Mary Whitley Survey, 1,000 feet; Phillips Petroleum Co.'s No. 1 Whittenberg, Section 12, Block Y, 2,450 feet; No. 2 Whittenberg, 2,200 feet; Phillips Petroleum and Williams' No. 1 Johnson Brothers, Section 7 Mary Whitley Survey, cementing 6⅝-inch at 2,917 feet; J. R. Phillips-Blasdell, No. 1 Weatherley, Section 18, Block Y, 9,000,000 feet of gas at 2,664 feet, total depth 2,885 feet; J. R. Phillips' No. 3 Kingsland, Section 6, Block Y, location; Prairie Oil & Gas Co.'s No. 22 Johnson Brothers, Section 22, Block Y, 2,969 feet; No. 2 Weatherley, Section 23, Block Y, 8-inch at 2,022 feet; Ramsey and others' No. 1 Johnson Brothers, Section 3, Block I, drilling salt at 1,300 feet; Relief Oil Co.'s No. 1 Smith, Section 11, Block Y, spudded, 320 feet; Roxana's No. 2 Smith, Section 14, Block Y, tools; No. 3 Smith, Section 14, building rig; No. 1-B Smith, Section 11, Block Y, rigging No. 2-B Smith, Section 11, cellar; Ryan Petroleum's No. 1 Johnson ranch, M. Whitley Survey, rigging; Skelly Oil Co.'s No. 1 Johnson ranch, M. Whitley Survey, building; No. 1-A Johnson ranch, Section 4, building; No. 1 Whittenberg, Section 22, Block 5, 2,350 feet; No. 2, Section 22, Block 5, drilling at 1,140 feet; No. 3, Section 22, Block 5, 655 feet; No. 4, Section 22, Block 5, set 10-inch at 810 feet, 900 feet; George Smith's No. 1 Lyal, Section 33, Block Z, tools; Smith & Bynum's No. 1 Whittenberg, Section 12, Block 5, 1,450 feet; Spring Creek's No. 1 Smith, Section 5, Block Y, spudded, 90 feet; The Texas Co.'s No. 7 Burnett, Section 132, Block 5, 350 feet; No. 1 Cooper, Section 6, Block 9, drilling salt at 1,640 feet; No. 1 Johnson, Section 1, trying to set 8-inch at 2,755 feet; Travelers' No. 1 Kingsland, Section 6, Block Y, 100 bbls. per day at 2,930 feet; No. 2 Kingsland, Section 6, Block Y, building; Triangle's No. 1 Smith, Section 5, Block Y, 450 feet; Twin Six Oil Co.'s No. 2 Kingsland, Section 6, Block Y, fishing at 2,500 feet; No. 3, Section 6, shut down at 390 feet; No. 4, Section 6, fishing for tools at 2,760 feet; Ward and others' No. 1 Cockerell, Section 3, Block Y, shut down at 800 feet; Western Enterprise's No. 2 Smith, Section 8, Block Y, total depth 3,017 feet, first oil at 2,945 feet, gradual increase to 3,000 feet, shot with 80 quarts at 2,950-90 feet, swabbing 40 bbls., estimated 20 bbls., drilling; Westex Oil's No. 1 Whittenberg, Section 13, Block Y, 2,855 feet; No. 2 Whittenberg, Section 13, 2,840 feet; White Eagle's No. 1 Johnson Brothers, Section 64, Block 46, 475 feet; No. 1 Smith, Section 11, Block Y,

2,050 feet; No. 2, Section 11, Block Y, cellar; No. 3, timbers on ground; No. 1 Whittenberg, Section 12, Block Y, cellar; Whittington's No. 2 Kingsland, Section 4, Block Y, location; Winner Oil Co.'s No. 1 Pritchard, Section 3, Block B-4, rig.

Moore County

Amarillo Oil's No. A-2 Masterson, Section 49, Block 3, granite at 2,500 feet; Brookings & Flowers' No. 1 J. T. Sneed, Section 25, Block 1, location; Cadmen & Martin's No. 1 Sneed, Section 68, Block 3, building rig; Landreth Production's No. 1 A. T. Sneed, N. Jones Survey, cellar; Moore County Oil Co.'s No. 1 J. T. Sneed, NW cor. Section 30, Block 6-T, rig.

Potter County

Amarillo Oil's No. A-4 Bivins, Section 24, Block O-18, drilling granite at 2,900 feet; Prairie Oil & Gas Co.'s No. 1 Bivins, Section 42, Block M-20, 2,880 feet.

Roberts County

Big Bend Oil Co.'s No. 1 Tedrick, Section 7, Block A-5, shut down at 4,017 feet; Schriver's No. 1 T. S. Jones, Section 106, Block C, abandoned.

Wheeler County

McFarland's No. 1 Rachelhoffer, Section 70, Block 23, shut down for control head at 2,635 feet; Midwest's No. 2 Porter, Section 14, Block 27, rigging.

Recapitulation

County—	First Reports	Drlg	Oil Wells	S.D.	Abd
Carson	1	14	3	0	0
Collingsworth	0	1	0	0	0
Dallam	1	0	0	0	0
Gray	0	6	2	0	0
Hutchinson	10	100	3	8	0
Moore	0	5	0	0	0
Potter	0	2	0	0	0
Roberts	0	0	1	0	1
Wheeler	2	1	1	0	1
Grand Total	14	129	10	8	2

REFINERS REDUCE RUNS IN THE MID-CONTINENT

(Continued From Page 21)

operations of the old Kansas City Refining Co. is listed under the Manhattan Oil Co., which recently took over the plant.

The principal development in North Louisiana refinery circles was the reorganization of the Caddo Central Oil & Refining Co. as the Crystal Oil Refining Corp. F. W. Burford, who has been in charge of wholesale and retail sales at the Tulsa office of the Skelly Oil Co., has been elected vice president and general manager of the new company and will take over his new work April 1.

As for runs to stills, the only changes were: reduction of 400 bbls. daily by the Great Southern Refining Co. at Ardis; increase of 200 bbls. by the Shreveport Producing & Refining Co. at Shreveport, and a drop of 800 bbls. by The Texas Co. at Ardis.

An increase of 900 bbls. daily by the Kettle Creek Refining Co. at Pearson, and 400 bbls. by McMillan, Fehlman & Oliver at El Dorado was enough to make Arkansas the only Mid-Continent district showing a total increase of runs. Three plants decreased runs but the reductions were only slight.

Of particular importance to Arkansas operations are plans of the Simms Oil Co. to erect a modern refinery in the Smackover Field. Definite arrangements have not been made.

REFINING OPERATIONS IN OKLAHOMA
(Plants which have been in operation during the past year)

Name and location—	Daily Capacity	Runs March 1	Runs Feb. 1
Anderson-Pritchard, Cyril	1,200	1,100	800
Barnsdall Refineries, Inc., Barnsdall	5,000	3,800	3,800
Barnsdall Refineries, Inc., (Waite Phillips), Okmulgee	6,000	Rerun	4,000
Bell Oil & Gas Co., Grandfield	3,000	1,200	1,200
Bolene Refining Co., Enid	5,000	3,000	3,000
Cameron Refining Co., Ardmore	3,900	3,000	3,000
Canfield Refining Co., Yale	500	150	150
Champlin Refining Co., Enid	16,000	6,200	8,300
Coleman-Nelson Corp., West Tulsa	2,000	Shut Down	Shut Down
Continental Oil Co., Sapulpa	7,000	1,500	1,500
Cushing Refining & Gasoline Co., Blackwell	1,500	1,200	1,100
Cushing Refining & Gasoline Co., Cushing	2,500	1,000	1,500
Empire Refineries, Inc., Cushing	7,000	5,000	5,000
Empire Refineries, Inc., Okmulgee	3,000	3,000	3,000
Empire Refineries, Inc., Ponca City	6,500	6,000	6,000
Fairmount Refining Co., Fairmount	2,500	Shut Down	Shut Down
Garber Refining Co., (Omar)	3,000	1,300	1,600
Gilmer Oil Co., Ringling	1,100	Shut Down	1,050
Globe Oil & Refining Co., Blackwell	5,000	4,500	4,500
Hewitt Refining Co., Hewitt	1,800	750	700
Illinois Oil Co., Cushing	3,000	1,300	1,350
Imperial Refining Co., Ardmore	6,000	3,600	4,800
Independent Oil & Gas Co., (Allied), Okmulgee	1,800	1,200	1,250
Interocean Refining Co., (Lorraine), Bristow	4,000	1,000	1,000
Lawton Refining Co., Lawton	1,000	Shut Down	Shut Down
Johnson Oil Refining Co., Cleveland	4,500	4,500	3,500
Mariand Refining Co., Ponca City	25,000	19,500	20,250
Mecca Refining Co., Allen	1,500	100	200
Mid-Continent Petroleum Co., (Cosden), West Tulsa	35,000	26,000	26,000
*Miller Brothers 101 Ranch, Mariand	100	100	100
Newkirk Oil & Refining Co., Newkirk	2,000	Shut Down	Shut Down
Nyanza Refining Co., Wilson	3,500	Shut Down	Shut Down
Oil State Refining Co., Enid	2,000	Shut Down	Shut Down
Okla.-Tex. Refining Co., (Sagamore), Grandfield	2,000	Shut Down	Shut Down
Peppers Gasoline Co., Covington	1,000	750	750
Pierce Oil Corp., Sand Springs	10,000	6,000	7,000
Producers & Refiners Corp., West Tulsa	7,000	4,000	4,000
Producers & Refiners Corp., Blackwell	4,000	Shut Down	Shut Down
Pure Oil Co., Ardmore	6,500	2,000	2,160
Pure Oil Co., Cushing	5,000	Shut Down	Shut Down
Pure Oil Co., Muskogee (O. P. & R. Co.)	2,500	2,000	2,000
Red Seal Refining Co., Oklahoma City	2,500	Shut Down	Shut Down
Riley Petroleum Co., Bristow	800	500	500
Rock Island Refining & Pipe Line Co., Duncan	2,500	2,500	2,250
Roland Oil Co., Bristow	1,500	550	550
Sayre Oil & Refining Co., Sayre	500	100	125
Shaffer Oil & Refining Co., Cushing	10,000	10,000	9,500
Sun Oil Co., Yale	3,000	2,500	2,500
Sinclair Refining Co., Cushing	6,000	Shut Down	Shut Down
Sinclair Refining Co., Muskogee	1,000	1,000	1,000
The Texas Co., West Tulsa	10,000	10,000	10,000
Texas Pacific Coal & Oil Co., Wynnewood	2,500	2,000	1,400
Tidal Refining Co., Drumright	6,500	Shut Down	5,000
Transcontinental Oil Co., Boynton	2,500	2,000	2,000
Transcontinental Oil Co., Bristow	6,000	4,500	5,000
Tonkawa Petroleum Co., Tonkawa	2,500	900	900
Western Oil Corp., Beckett	1,500	1,500	1,500
Yale Oil Corp., Yale	1,500	550	600
Total	173,700	153,150	167,385

*Average daily runs lower.

REFINING OPERATIONS IN NORTH CENTRAL TEXAS
(Plants which have been in operation during the past year)

Name and location—	Daily Capacity	Runs March 1	Runs Feb. 1
Amarillo Refining Co., Amarillo	5,000	3,000	3,000
American Refining Co., Wichita Falls	7,000	4,400	4,500
Big Four Refining Co., Panhandle	1,500	800	[illegible]
Bridgeport Refining Co., Bridgeport	1,000	Shut Down	Shut Down
Buffalo Refining Co., Sherman	500	150	150
Col. Tex. Refining Co., Colorado	5,000	4,250	4,000
Crystal Petroleum Co., Burkburnett	1,000	250	250
Dale Oil & Refining Co., Electra	3,000	1,800	1,200
De Leon Refining & Pipe Line Co., De Leon	1,500	Shut Down	Shut Down
Falls Refining Co., Wichita Falls	1,500	1,100	1,000
Four States Refining Co., Texarkana	750	Shut Down	Shut Down
Gulf Refining Co., Fort Worth	15,000	6,500	6,500
Hagaman Refining Co., Tiffin	2,000	275	275
Humble Oil & Refining Co., Burkburnett	4,000	2,200	2,200
Humble Oil & Refining Co., Hearne	10,000	Shut Down	Shut Down
Iowa Park Producing & Refining Co., Iowa Park	2,500	1,350	1,350
Kent-Middleton Refining Co., Corsicana	2,500	1,000	1,000
Magnolia Petroleum Co., Fort Worth	12,000	6,700	6,700
Magnolia Petroleum Co., Corsicana	10,000	3,000	3,000
Megargel Refining Co., Megargel	2,000	350	400
Mexia Oil & Refining Co., Mexia	600	Shut Down	Shut Down
Miller Petroleum Co., Wichita Falls	2,000	1,900	1,850
National Refining Co., Texas, Greenville	2,000	Shut Down	Shut Down
Noble Oil & Gas Co., Burkburnett	5,000	2,500	2,500
Olney Oil & Refining Co., Olney	1,200	1,100	1,000
Oriental Refining Co., Dallas	6,000	250	250
Oriental Refining Co., (Trinity), Dallas	5,000	2,800	2,800
Orient Petroleum Co., Wichita Falls	2,000	1,200	1,250
Panhandle Refining Co., Wichita Falls	4,000	2,100	2,800
Paris Refining Co., Paris	250	Shut Down	Shut Down
Peerless Refining Co., Wortham	400	Shut Down	Shut Down
The Petroleum Corp., Electra	2,000	Shut Down	Shut Down
Primrose Refining Co., Wichita Falls	1,500	600	650
Producers Refining Co., Gainesville	5,000	4,000	4,000
Simms Oil Co., (Clayton), Dallas	4,500	3,800	4,000
Star Refining & Producing Co., Fort Worth	1,500	700	700
Sunshine Consolidated Oil Co., Wichita Falls	2,500	Shut Down	Shut Down
Sweetwater Refining Co., Sweetwater	500	Shut Down	Shut Down
*Tidal Western Refining Co., Burkburnett	3,000	Shut Down	2,000
The Texas Co., Dallas	15,000	10,000	10,000
Texhoma Oil & Refining Co., Wichita Falls	7,000	4,500	4,750
Tiger Refining Co., Brackenridge	1,500	Shut Down	Shut Down
Transcontinental Oil Co., Fort Worth	5,000	3,000	3,000
Waggoner Refining Co., Electra	3,400	2,500	2,600
White Eagle Oil & Refining Co., Fort Worth	5,000	2,000	2,000
Wilson Brothers Refining Co., Wichita Falls	2,500	Rerun	1,000
Total	177,100	80,075	83,525

*Resumed operations March 6 rerunning 2,000 bbls. daily.

REFINING OPERATIONS IN KANSAS
(Plants which have been in operation during the past year)

Name and location—	Daily Capacity	Runs March 1	Runs Feb. 1
Arkansas City Refining Co., Arkansas City	8,000	Shut Down	Shut Down
Barnsdall Refineries, Inc., (Waite Phillips), Wichita	5,000	3,000	2,200
Commonwealth Oil & Refining Co., Moran	1,800	Shut Down	Shut Down
Derby Oil & Refining Co., Wichita	5,000	3,215	2,690
El Dorado Refining Co., El Dorado	3,500	2,500	2,500
Golden Rule Refining Co., Wichita	1,000	500	500
Grant Oil Co., Augusta	1,500	Shut Down	Shut Down
Kanotex Refining Co., Arkansas City	9,000	7,500	7,500
Manhattan Oil Co., (K. C. Refg. Co.) Kansas City	5,000	3,200	4,000
Miller Petroleum Co., Humboldt	2,000	150	150
National Refining Co., Coffeyville	6,000	6,000	6,000
Peerless Oil Refining Co., Chanute	3,000	2,000	2,000
Red Bird Refining Co., Fredonia	200	Shut Down	Shut Down
Roxana Petroleum Corp., Arkansas City	19,500	11,400	16,000
Sinclair Refining Co., Coffeyville	6,500	6,500	6,500
Sinclair Refining Co., Argentine	3,000	4,000	4,000
Skelly Oil Co., El Dorado	14,000	8,400	8,600
Standard Oil Co. of Kansas, Neodesha	12,000	11,000	11,000
United Oil & Refining Co., Hutchinson	2,500	Shut Down	Shut Down
Vickers Petroleum Co., Potwin	3,500	2,600	2,600
West Kansas Refining Co., Russell	2,500	2,000	1,400
White Eagle Oil & Refining Co., Augusta	6,500	4,700	4,700
West Missouri Group—			
Wilhoit Refining Co., Joplin	2,000	1,500	800
Total	130,900	80,195	83,170

REFINING OPERATIONS IN NORTH LOUISIANA
(Plants which have been in operation during the past year)

Name and location—	Daily Capacity	Runs March 1	Runs Feb. 1
Crystal Oil Refining Corp., (Caddo Central), Shreveport	3,500	3,000	3,000
Crystal Oil Refining Corp., (Caddo Central), Shreveport	5,000	5,000	5,000
Great Southern Refining Co., Ardis	2,000	600	1,000
Louisiana Oil Refining Corp., Shreveport and Bossier	15,000	12,000	12,000
Shreveport Producing & Refining Co., Shreveport	5,500	4,200	4,000
*The Texas Co., Ardis	7,000	6,000	6,800
Total	37,500	31,400	31,800

*Topping.

REFINING OPERATIONS IN ARKANSAS
(Plants which have been in operation during the past year)

Name and location—	Daily Capacity	Runs March 1	Runs Feb. 1
Cross Refining Co., Smackover	2,500	3,000	3,000
Home Refining Co., Camden	500	75	75
Home Oil & Refining Co., Hot Springs	500	50	50
Houston Oil Co., Camden	5,000	2,000	2,000
Kettle Creek Refining Co., Pearson	4,000	3,900	3,000
Lion Oil & Refining Co., El Dorado	10,000	8,700	8,740
McMillan, Fehlman & Oliver, El Dorado	1,500	900	500
Ouachita Valley Refining Co., El Dorado	1,500	575	600
Pine Bluff Refining Co., Pine Bluff	2,000	Shut Down	Shut Down
Root Refineries, El Dorado	2,500	1,970	2,000
Total	30,000	21,170	19,965

GOOD OIL YEAR CAN BE MADE BETTER—SINCLAIR

(Continued From Page 23)

ference in the chief product—gasoline. In 1912 we were getting about 12 per cent of gasoline from a barrel of crude; in 1916 about 19 per cent, and in 1925 over 34 per cent. A scarcity of crude will increase the cracking efficiency, resulting in a greater gallonage of gasoline, and these factors must be anticipated when the question of supply and demand is under consideration. It is not quite certain as yet what quantity of gasoline will be cracked in 1926, but the increase should be in proportion to the increase of previous years. Against the fact that more gasoline will be made out of a barrel of oil we must consider the greater consumption of gasoline. Over 20,000,000 licensed gasoline consuming vehicles were in use in 1925. I have seen figures indicating an increase of 2,500,000 for 1926. We all realize that more paved roads increase automobile mileage necessitating greater consumption. This, together with the fact that over 60 per cent of the automobiles are closed insuring more gasoline consumption during the winter with a greater popularity for the passenger buses throughout the United States, makes it certain that the gasoline consumption will insure a stabilization of business throughout the year. We all know that great quantities of crude are being taken out of storage today and that there is no great menace in sight in any producing area. How about California? It is not so much of a menace. There will be need for the California oil according to present indications and we must not lose sight of the fact that in one week with a California production of 615,000 bbls about 300,000 included heavy oil, not much of a factor in the gasoline business."

Mr. Sinclair has a host of friends in the Mid-Continent field and he spent several days visiting with old acquaintances while conferring with his executives in Tulsa. Out of all his conversation and comparisons one can only be impressed by the fact that 1926 will be a good year and that it could be made much better if the commonsense rules applied to other industries could be adopted by the oil business man if he would produce, refine and market oil at prices profitable to the hundreds of thousands of investors whose manner has made possible the phenomenal development of the investor to its present magnitude.

PRAIRIE'S SHIPMENTS SHOW LARGE INCREASE

The Prairie Pipe Line Co.'s shipments (deliveries to refiners) in February show a large increase over the business the company has done in other months in the

immediate past. The total for the month was 4,071,404.60 bbls., or an average of 145,407 bbls. per day. The record of average daily shipments for the past 12 months in barrels has been as follows:

1926—	
February	145,407
January	135,077
1926—	
December	134,909
November	128,359
October	128,731
September	132,945
August	139,306
July	155,568
June	157,204
May	152,253
April	147,195
March	158,836
February	154,377
January	143,267
Daily average 13 months	143,149
Daily average 14 months	143,102

NORTH CENTRAL TEXAS

(Continued from Page 31)

Bevering and others' No. 3 Boddy, 20 bbls. at 1,309 feet.

Montague County

Humphrey's Oil Corp.'s No. 3 Hinds, 150 bbls. at 963 feet; The Texas Co.'s No. 2 Oldham, 40 bbls. at 1,378 feet; Texhoma Oil & Refining Co.'s No. 4-A Rowland, 55 bbls. at 1,379 feet; Wilcox and others' No. 1 Black, dry at 1,585 feet.

Shackelford County

Half and others' No. 1 Black Brothers, dry at 602 feet; Milham Corp.'s No. 1 Taylor, dry at 925 feet; Roberts and others' No. 2 Dowell, dry at 400 feet; Roeser and Pendleton's No. 2 Cook, 720 bbls. at 1,242 feet; Wells and others' No. 1 McLemore, dry at 1,005 feet.

Coleman County

Sunflower Oil Co.'s No. 4 Gates, dry at 1,100 feet.

Wichita County Drilling

Dale Oil Corp.'s No. 1 Thorman, drilling at 1,460 feet; Jeffers and Jeffers' No. 1 Harrell, 1,000 feet; E. J. Stump Co.'s No. 1 Dutton, 1,400 feet; Burt and others' No. 1 Hansard 2,960 feet; Cozy Oil Co.'s No. 10 Warren, 950 feet; Fowler and others' No. 1 Dodson, 575 feet; Magnolia Petroleum Co.'s No. 10 Warren, 1,000 feet; No. 125 Reilly, 1,150 feet; No. 128 Reilly, cleaning out at 697 feet; Texhoma Oil & Refining Co.'s No. 1-A Beach, drilling at 2,515 feet; Apple and others' No. 18-B Jennings, 900 feet; Atlantic Oil Producing Co.'s No. 1-G Waggoner, 300 feet; Bridwell and others' No. 1 Waggoner, 1,700 feet; Culbertson Co.'s No. 36 Waggoner Brothers, 300 feet; Dale and others' No. 10 Burnett, 1,150 feet; Dale Oil Corp.'s No. 21 Jennings, 1,400 feet; Empire Gas & Fuel Co.'s No. 12-A Waggoner, 700 feet; Hereford Oil Co.'s No. 2-A Allingham, 1,500 feet; Maer and others' No. 1 Hines, 1,500 feet; Magnolia Petroleum Co.'s No. 70 Honaker, cleaning out at 1,450 feet; No. 1 Kelley, underreaming; No. 15-A Pratt, drilling at 200 feet; No. 18-B Ramming, 1,200 feet; No. 54 Rio Bravo, spudding; No. 11 Watkins, drilling at 1,195 feet; O'Neil and others' No. 1 Roberts, 1,850 feet; Panhandle Refining Co.'s No. 1 Powell, 500 feet; Petroleum Producers Co.'s No. 19-B Allen and Kemp, 1,500 feet; Plummer and others' No. 6 Chilson, 500 feet; Ridgeway and others' No. 5 Powell, 1,100 feet; Ryan Petroleum Co.'s No. 54 Nance, 1,000 feet; No. 55 Nance, fishing at 410 feet; Texhoma and Pace's No. 1 Edgerly, drilling at 1,424 feet; Texhoma Oil & Refining Co.'s No. 5-M Burnett, showing oil at 1,537 feet; Weaver and others' No. 1 Nance, drilling at 500 feet.

Wilbarger County

Atlantic Oil Producing Co.'s No. 3 Sigler-Waggoner, testing sand at 2,013 feet; No. 4 Sigler-Waggoner, drilling at 870 feet; Barkley and others' No. 2 Bond, 2,456 feet; No. 11-A Stephens, fishing at 2,325 feet; No. 6-B Stephens, drilling at 2,104 feet; Bridwell and others' No. 13 Stephens, 800 feet; Garretson and others' No. 1 Waggoner, 2,070 feet; Graham and others' No. 1 George, on sand at 2,227 feet; Humble Oil & Refining Co.'s No. 23 Castlebury, plugging back to 1,705 feet; No. 6 Stephens, cleaning out at 2,387 feet; No. 42 Stephens, drilling at 2,400 feet; No. 44 Stephens, 185 feet; No. 45 Stephens, 300 feet; No. 5-G Waggoner, 2,209 feet; No. 2-K Waggoner, 1,765 feet; No. 3-K Waggoner, 1,685 feet; No. 1-L Waggoner, 2,365 feet; No. 3-M Waggoner, cleaning out at 1,866 feet; No. 1-N Waggoner, drilling at 1,585 feet; No. 3-O Waggoner, cementing casing at 1,891 feet; No. 4-O Waggoner, on sand at 1,909 feet; Independent Oil & Gas Co.'s No. 1 Waggoner, drilling at 2,530 feet; Landreth Production Co.'s No. 6-A Waggoner, cementing casing at 1,846 feet; No. 7-A Waggoner, drilling at 1,173 feet; No. 7-D Waggoner, 2,100 feet; No. 5-F Waggoner, running core at 1,882 feet; No. 2-G Waggoner, on sand at 1,879 feet; No. 3-G Waggoner, drilling at 1,341 feet; No. 2-H Waggoner, running core at 1,879 feet; No. 3-M Waggoner, drilling at 2,282 feet; No. 2-Q Waggoner, 917 feet; No. 1-BB Waggoner, showing oil at 2,280 feet; No. 3-CC Waggoner, on sand at 1,877 feet; No. 5-CC Waggoner, drilling at 237 feet; No. 1-HH Waggoner, showing oil at 2,395 feet; No. 3-NN Waggoner, cementing casing at 1,885 feet; No. 1-PP Waggoner, drilling at 1,620 feet; No. 1-QQ Waggoner, showing oil at 2,391 feet; No. 1-SS Waggoner, drilling at 1,405 feet; No. 1-AAA Waggoner, underreaming; Lawson and others' No. 14 Waggoner, showing oil at 2,545 feet; McCamey and others' No. 22 Stephens, drilling at 2,100 feet; No. 30 Stephens, 1,400 feet; No. 31 Stephens, 1,810 feet; No. 33 Stephens, fishing at 1,180 feet; No. 34 Stephens, drilling at 500 feet; Magnolia Petroleum Co.'s No. 71 fee, 1,015 feet; No. 48 Piper, underreaming; No. 52 Sumner, underreaming; Milham Corp.'s No. 2-A Waggoner, drilling at 2,300 feet; No. 2-B Waggoner, showing oil at 2,400 feet; No. 3-B Waggoner, drilling at 315 feet; No. 1-D Waggoner, 1,885 feet; No. 5-H Waggoner, 2,260 feet; No. 7-H Waggoner, 1,490 feet; Miller Oil Co.'s No. 2 Waggoner, cleaning out at 1,920 feet; Murchison and others' No. 3 Ditto, coring at 2,683 feet; Prairie Oil & Gas Co.'s No. 2-A Waggoner, underreaming; No. 2-B Waggoner, setting casing at 1,100 feet; Rio Bravo Oil Co.'s No. 1, Section 19, fishing at 1,085 feet; Randeau and others' No. 1-B Waggoner, drilling at 450 feet; Roxana Petroleum Corp.'s No. 6-A Waggoner, 1,395 feet; Shamrock Oil Co.'s No. 1-B Waggoner, 1,824 feet; No. 1-K Waggoner, showing oil at 2,333 feet; No. 1-W Waggoner, cleaning out at 2,365 feet; Shipley and others' No. 1 Castlebury, cleaning out at 2,518 feet; No. 1 Waggoner, cleaning out at 1,143 feet; Sloan and others' No. 2 Waggoner, drilling at 170 feet; The Texas Co.'s No. 1 Zipperle, 2,385 feet; Texhoma Oil & Refining Co.'s No. 1 Waggoner, cleaning out at 2,050 feet.

Young County

Adams and others' No. 1 McClatchey, drilling at 910 feet; Appleby and others' No. 1 Stewart, 120 feet; Atkinson and others' No. 1 Donnell, spudding; No. 1 Ford, running casing at 1,430 feet; Atlantic Oil Producing Co.'s No. 2 Powell, drilling at 466 feet; Brashear and others' No. 3 Marshall, drilling at 1,035 feet; Batex Oil Co.'s No. 1 Portwood, on sand at 2,343 feet; Beavers and others' No. 1 Teague, drilling at 520 feet; Bridwell and others' No. 11 Boren, 360 feet; No. 2 Farmer, 400 feet; No. 3 Street, on sand at 1,284 feet; Casey and others' No. 1 Steen, setting casing at 490 feet; Carter and others' No. 2 Benson, on sand at 938 feet; Christie and others' No. 1 Vernon, drilling at 100 feet; Coones and others' No. 2 Scarborough, cleaning out at 4,375 feet; Hoffer Oil Corp.'s No. 1 Boyd, drilling at 825 feet; Hubbard Drilling Co.'s No. 1 Harrison, 2,765 feet; Kay and others' No. 1 Eichelberger, 560 feet; Log Cabin Oil Co.'s No. 1 Calvin, cleaning out at 325 feet; McElreath and others' No. 1 Freeman, drilling at 710 feet; Phillips Petroleum Co.'s No. 2 Corbett; fishing at 2,680 feet; Pitzer and others' No. 1 Burgess, drilling at 1,320 feet; Prairie Oil & Gas Co.'s No. 4 Boren, 840 feet; Plains Production Co.'s No. 2 Butler, 958 feet; Reed and others' No. 1 Andrews, running core at 885 feet; Roxana Petroleum Corp.'s No. 1 Neely, fishing at 900 feet; Simms Oil Co.'s No. 1 Goldston, cleaning out at 4,350 feet; Stovall and others' No. 4 fee, drilling at 2,730 feet; The Texas Co. and Prairie Oil & Gas Co.'s No. 3 Boren, on sand at 1,072 feet; Texas Unity Oil Co.'s No. 1 Edwards, drilling at 710 feet; Tidal Oil Co.'s No. 1 Benson, 880 feet; Whitehead and others' No. 2-B Belknap Coal Co., 4,525 feet.

Throckmorton County

Humble Oil & Refining Co.'s No. 1 Stubblefield, drilling at 3,230 feet; No. 1 Stephens, 1,025 feet; Texhoma Oil & Refining Co.'s No. 3 Reynolds, 3,210 feet.

Shackelford County

Domestic Oil Co.'s No. 1 Colbert, drilling at 1,480 feet; Dunbar and others' No. 1 Matthews, 910 feet; Eli and others' No. 1 Poindexter, spudding; Engle Brothers' No. 2 Matthews, drilling at 900 feet; Heck and others' No. 1 Reynolds, setting casing at 970 feet; Hope Petroleum Co.'s No. 1 Newell, is drilling at 2,250 feet; Jackson and others' No. 1 Hadley, 820 feet; Mahlstedt Oil Co.'s No. 1 Russ, 1,283 feet; Milham Corp.'s No. 1 Sedwick, 1,860 feet; No. 1 Simpson, 755 feet; Moutray Oil Co.'s No. 2 Snyder, 1,130 feet; Phillips Petroleum Co.'s No. 1 Hadley, spudding; Simms Oil Co.'s No. 1 Myrick, drilling at 800 feet; Spoonts and others' No. 2 Poindexter, 472 feet; The Texas Co.'s No. 1 Green, 1,880 feet; Van Duyne and others' No. 1 Gray, 365 feet.

Callahan County

Adams and others' No. 1 Windham, setting casing at 1,280 feet; Clark and others' No. 1 Seamans' fishing at 300 feet; Diamond and others' No. 1 Terry, drilling at 975 feet; French and others' No. 1 Maddox, 1,135 feet; Kirk and others' No. 1 Harlow, 1,650 feet; Mook Texas Oil Co.'s No. 1 Baum, underreaming; Moore and others' No. 1 Brashear, drilling at 820 feet; Moutray Oil Co.'s No. 2 Finley, underreaming; The Texas Co.'s No. 1 Leggett, drilling at 1,822 feet; Transcontinental Oil Co.'s No. 1 Gorsuch, 675 feet; Wilkerson and others' No. 1 Barr, setting casing at 1,380 feet.

Mitchell County

Atlantic Oil Producing Co.'s No. 4 Womack, drilling at 2,775 feet; Eastland Oil Co.'s No. 1 Adams, 2,808 feet; No. 1 Handley, 1,670 feet; Marland Oil Co.'s No. 1 Shumaker, 2,665 feet; Magnolia Petroleum Co.'s No. 1 Coleman, plugging back to straighten hole; No. 1 Adams, drilling at 2,700 feet; No. 3 Adams, 1,880 feet; No. 1 Kloh and Rumsey, 830 feet; California Co.'s No. 2 Adams, 230 feet; No. 5 Elder, 2,760 feet; No. 5 Miller, 2,975 feet; No. 3 Womack, setting casing at 2,900 feet; No. 4 Womack, drilling at 475 feet.

Coleman County

Bateman and others' No. 1 Morris, underreaming; Bradshaw and others' No. 1 Watson, drilling at 280 feet; Burke and others' No. 1 Dibrell, spudding; Gwinnup and others' No. 2 Dibrell, running casing at 710 feet; Conway and others' No. 2 Morris, drilling at 2,080 feet; Canyon Oil & Gas Co.'s No. 1 Parsons, 505 feet; Cranfill and others' No. 1 Parsons 500 feet; Evans and others' No. 1 Walker, spudding; French and others' No. 1 Morris, drilling at 2,140 feet; French and Lewis' No. 1 Morris, 620 feet; Magnolia Petroleum Co.'s No. 15 Morris, 2,940 feet; Mahlstedt Oil Co.'s No. 1 Atkinson, 2,240 feet; McChesney and others' No. 1 Lowe, 465 feet; Merry Brothers' No. 1 Kinney, 635 feet; Midwest Exploration Co.'s No. 1 Dibrell, 395 feet; Monroe Production Co.'s No. 1 McCrary, 2,050 feet; Morton and others' No. 1 Morris, 1,475 feet; Moore and others' No. 1 Sackett, 1,843 feet; Nolan and others' No. 1 Brehn, 1,265 feet; Owen and others' No. 1 Baker, 1,270 feet; Pennant Oil & Gas Co.'s No. 1 Neeb, 430 feet; Superior Oil Co.'s No. 1 Helton, 300 feet; White Eagle Oil & Refining Co.'s No. 1 Casey, fishing at 455 feet; Gladys Belle Oil Co.'s No. 3 Watson, drilling at 2,425 feet; Howard Petroleum Co.'s No. 1 Stearns, fishing at 800 feef; Morrison and others' No. 1 Burk, drilling at 1,000 feet; Pandem Oil Corp.'s No. 1 Mitchell, 1,519 feet; Ross and others' No. 1 Haygood, 1,100 feet.

Brown County

Barkley and others' No. 1 Dunn, drilling at 1,010 feet; No. 2 Dunn, 730 feet; Carter and others' No. 1 Church Lot, 700 feet; No. 3 Dunn, 640 feet; No. 1 Stapp, fishing at 1,000 feet; Cosden and others' No. 9 Gafford, drilling at 1,200 feet; No. 1-A Williams, 900 feet; Cox and others' No. 1 Algood, 1,300 feet; Curry and others' No. 1 Stone, 940 feet; No. 1 Kil-

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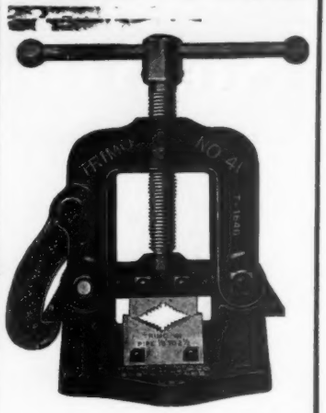

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gore, spudding; Danciger and others' No. 2 Eddington, showing oil at 1,267 feet; Denny and others' No. 1 Cason, drilling at 265 feet; Douglas and others' No. 1 Graham, 840 feet; Dozier and others' No. 2 Byrd, underreaming; Eastland Oil Co.'s No. 2 Stone, drilling at 915 feet; Gray and others' No. 1 Lewis, 1,620 feet; Herring and others' No. 1 Prather, 520 feet; Hill and others' No. 2 Newton, 600 feet; Hughes and others' No. 3 Arledge, 200 feet; Humble Oil & Refining Co.'s No. 1 Allen, 700 feet; Hutton and others' No. 1 Mauldin, 550 feet; Keough Brothers' No. 1 Wheeler, 2,575 feet; McLester Oil Co.'s No. 5 Clark, 600 feet; Mahlstedt Oil Co.'s No. 1 Eddington, 1,240 feet; Moore and others' No. 1 Lehman, 260 feet; Pandem Oil Corp.'s No. 1 Prather, 1,280 feet; Prairie Oil & Gas Co.'s No. 1 Turner, 300 feet; Rhodes and others' No. 10 Prather, 1,326 feet; Rocky River Oil Co.'s No. 1 Newton, spudding; Schaffner and others' No. 7 Prather, cleaning out at 1,313 feet; Slick and others' No. 3 Starr, drilling at 1,590 feet; Smith and others' No. 1 Dunn, spudding; States Oil Corp.'s No. 2-A Allen, drilling at 910 feet; No. 1-C Allen, 490 feet; Stout and others' No. 1 Gaines, showing oil and gas at 2,380 feet; The Texas Co.'s No. 1 Dunn, drilling at 780 feet; Arkansas Fuel Oil Co.'s No. 1 Gaines, spudding; Boysen and others' No. 1 Smith, drilling at 1,591 feet; Haynes and others' No. 1 Reed, 365 feet; No. 1 Means, 410 feet; Moore and others' No. 1 Ward, showing oil at 1,620 feet; Shadbolt and others' No. 1 Hall, drilling at 265 feet; Treat & Co.'s No. 1 Anderson, 1,200 feet.

Upton County

Dixie Oil Co.'s No. 1 Burleson, showing oil at 2,230 feet; Hults and others' No. 1 Halff, 1,055 feet; Independent Oil & Gas Co.'s No. 1 Burleson, cleaning out at 2,231 feet; Germany and others' No. 1 Halff, drilling at 2,820 feet; Kirby Petroleum Co.'s No. 1 Union Land Co., 3,300 feet; Plateau Oil Co.'s No. 1 Union Land Co., cleaning out to drill deeper at 2,234 feet; Marland Oil Co.'s No. 1 Sanger Brothers, drilling at 1,995 feet; The Texas Co.'s No. 1 Union Land Co., 1,930 feet; Zoch and others' No. 1 Union Land Co., 2,578 feet; No. 1 Ruhmann, 1,075 feet; No. 1 Keith, 1,500 feet.

Crockett County

Crockett Drilling Syndicate's No. 2 Shannon, drilling at 2,185 feet; Humphrey's Oil Corp.'s No. 1 University, 3,155 feet; Magnolia Petroleum Co.'s No. 1 Shannon, 2,140 feet.

REFINED MARKET IS STRONG IN SPOTS

(Continued From Page 20)

reductions in crude runs to help them dispose of some of their surplus stocks, and these reductions may alter the crude situation.

Gasoline and Naphtha

As a result of the continued slowness of demand, gasoline prices, which for several weeks have been able to hold their own, began to sag again the past week, and Monday and Tuesday concessions were being made fairly freely in nearly all grades. U. S. Motor (58-60 437) gasoline Tuesday was quoted easily to the trade at 10 cents and more and more was becoming available for resale at as low as 9¾ cents. Lower grades and naphtha also declined.

Higher gravity gasolines continued inactive and exporters still were not openly in the market. A few scattered purchases, both of 60-62 400 and 64-66 375 gasolines were reported. The former moved around 11¼ cents although cheaper material was available. The 64 gasoline ranged from 12 cents to 12½ although 12¼ seemed to be the prevailing quotation.

Natural Gasolines and Blends

Natural gasolines and blends were featureless. Although there was not an excessive supply on hand, there were very few orders for any grades and prices softened as a result. A grades were available at 9½ to 9¾ cents easily, the B grades at 8¾ to 9 cents, and C at 8½ to 8¾ cents. Blended gasolines also were extremely quiet and quotations from a quarter to a half cent lower.

The general kerosene situation remained unchanged during the week but as previously mentioned distillates were stronger and in great demand. Distillate quotations were advanced from an eighth to a quarter cent as the demand increased, and Tuesday little, if any, 38-40 straw distillate was available under 4⅛ cents. The 36-38 grade was in demand at 4 cents. The demand for kerosene was not so good as it had been in previous weeks but prices still were firm Tuesday at 6¾ to 6⅞ cents for the 41-43 water white grade and 7 to 7¼ cents for the 42-44 water white product.

Fuel Oil and Gas Oil

Although higher gravities were strong, lower grades of fuel felt little change during the week. Fairly good stocks of these products are on hand but demand for higher gravities and gas oil was sufficient to help keep the lower grades from slipping. The 18-22 fuel was quoted from $1.15 to $1.17½ as in the past several weeks; 22-26 fuel at $1.17½ to $1.20; and 24-26 at $1.22½ to $1.25.

On the other hand a 28-30 fuel was hard to find Tuesday at $1.40 due to the increased demand for this grade, and very little gas oil moved under 3⅞ cents and the majority of quotations at 4 cents.

Lubricants and Wax

There were no important developments in the general lubricating oil and wax situation. Many varied quotations still floated around with demand for these products only fair for this time of year.

Preliminary Survey Declares Panhandle Pipe Line Feasible

WICHITA FALLS, Tex., Mar. 9.—A preliminary survey has shown the feasibility of a 10-inch line from the Panhandle oil fields connecting with the local refineries and major pipe lines of this territory, according to W. M. Priddy, president of the American Refining Co. Mr. Priddy returned Monday from the Panhandle where he spent several days with R. S. Lord, president of the Hope Engineering & Supply Co. The latter company has been retained by Mr. Priddy and associates to make a survey of the proposed line.

In a preliminary report received here today Mr. Lord states that the proposed line does not offer any special construction problems. Regarding the high viscosity oil which some have held was a vital objection to the construction of the line, the report states it can be handled by the proper installation of pumps.

Several producers and refiners in this area are connected with the project which first received serious consideration about two weeks ago. It is said here that at least two of the largest pipe line companies with trunk lines out of here to the Gulf will support the construction of the 200-mile line provided the final report of the Hope company is favorable. Mr. Lord, with engineers, is now in the Panhandle completing the survey.

PETROLEUM STATISTICS, JANUARY, 1926

The production of crude petroleum in the United States for January, as reported to the Bureau of Mines, Department of Commerce, amounted to 59,656,000 bbls., a daily average of 1,924,000 bbls. This represents a decrease from the previous month of 42,000 bbls. per day, or 2 per cent, but is slightly higher than the production of a year ago. However, it is of interest that 32 per cent more oil wells were completed in January, 1926, than in January, 1925. In contrast to the experiences of a year ago, January was a month of general decline in almost every state and district. The Texas Gulf, or salt dome, district was the only one to register a gain of much importance, its production showing an increase of 9,000 bbls. a day or 11 per cent. Although production in California again fell off, the greater part of the decline occurred in the Mid-Continent Field, more specifically in Arkansas and Oklahoma.

Stocks of crude petroleum east of California again declined, the total of 288,250,000 bbls. being the lowest point since the latter part of 1923. Stocks of crude petroleum at refineries increased slightly. Stocks of heavy crude and fuel oil in California were increased 1,000,000 bbls. to a record high figure of 82,866,000 bbls.

Crude runs to stills during the month of January amounted to 61,257,000 bbls., of which 2,700,000 bbls. was foreign crude oil. This represents a decrease in total runs from the previous month of 2.5 per cent. Despite the decrease in crude runs, gasoline production increased to 948,904,000 gallons. This represents a daily average of 30,600,000 gallons, an increase over December of 1.5 per cent. Gasoline recovery from crude oil run to stills was at the rate of 37 per cent, the highest ever recorded. This was probably due to increased production by cracking, 29 per cent of the total production resulting from this source. Exports of gasoline reached a new high mark—143,969,000 gollons, but domestic demand fell off as stocks increased. Domestic demand amounted to 720,358,000 gallons, a decrease from December, 1925, of 5 per cent. Stocks on hand January 31, 1926, amounted to 1,749,123,000 gallons, an increase during the month of 100,000,000 gallons. Assuming that imports, exports and daily domestic demand will remain constant, these stocks represent 70 days' supply as compared with 63 days' supply on hand at the end of the previous month and 71 days' supply on hand January 31, 1925.

Production of kerosene fell off somewhat but stocks were again reduced as domestic consumption continued heavy.

Stocks of gas and fuel oils were once more drawn on and fell below the billion-gallon mark, to 977,178,000 gallons. Production of this commodity fell off as a direct result of decreased runs to stills.

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Significant switches are being made by refiners in the recovery of gasoline and fuel oil, of vast importance to the entire oil industry.

To facilitate a thorough understanding of these changes in every refining area The Oil and Gas Journal began in last week's issue a series of articles by Charles E. Bowles, petroleum analyst, which will make the operations in the districts so plain they may be seen at a glance.

These special articles, illustrated by easily comprehended graphs, will cover in each area crude run to stills, production of gasoline, kerosene, fuel oil and lubricating oils and stocks of gasoline and fuel oil, with a One Hundred Per Cent graph for each area showing the proportion of recovery of each product on a similar scale.

Each of ten refining areas is to be treated in a separate article. Each area has its own distinct methods with distinctive proportions of recovery for each product. The closing article of the series will summarize these variations and point out the economic significance of the survey for the industry at large.

In view of the rapidly changing conditions in the refining branch, which in turn vitally affect the whole industry, these articles should be found of special value, assembling and explaining information of direct interest and importance to everyone engaged in the oil business.

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Chemical Control of Gasoline Plants

Efficient Manufacture Now Demands Modern Equipped Laboratory With Which to Keep a Constant Check on All Phases of Operation

By George W. H. Reid*

The value of the chemist to the absorption gasoline industry cannot be overemphasized. The achievements and accomplishments of technical staffs throughout the industry in the past few years are remarkable, for the industry has been presented with a multitude of improvements, with apparatus of high efficiency and great economy, and with instruments of control which are conducive to almost automatic operation of absorption installations. Great improvement in interchangers, preheaters and distillation equipment has been obtained, and the perfection of stabilizers, and fractionating columns, and of entire processes,

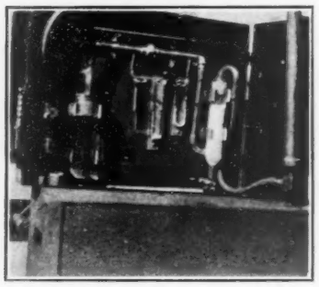

Fig. 1—Hutchinson Gas Absorber for sampling natural gas. Upright tube on the right contains activated charcoal.

such as the activated charcoal absorption system, are of far-reaching influence.

In the meantime, the chemist has been making great strides in the perfection of instruments for his own use, aiding in the work of control of plant operations. The perfection and utilization of such equipment as automatic oxygen control devices, automatic gas specific gravity recorders, automatic gasoline specific gravity recorders, automatic gas calorimeters (recording), etc., present a few among many of the various types of highly efficient testing and analytical devices which the technologist has developed for his work of positive, definite and accurate control of plant operations.

Among the usual tests and methods found in the laboratory of the modern progressive absorption gasoline manufacturer is the examination of the gas before and after being treated, and the examination of the absorption oil for saturation, before and after distilling. Saturation tests on the "lean" oil after leaving the still indicate the percentage of gasoline being removed from the oil in the still—and through this knowledge the evaporation procedure is controlled.

The saturation test applied to the "fat" oil en route to the still from the absorbers indicates the absorbing power of the oil and the efficiency of the tower; the saturation test being performed according to certain standard methods. It is readily seen that the difference between "fat" oil saturation and "lean" oil saturation represents the plant production per hour or per day, when computed on the basis of oil circulated to towers.

For example: With 10,000 gallons per hour absorption oil to towers, the fat oil saturation is 4 per cent and lean oil saturation is 2 per cent, leaving an available extracting saturation of 2 per cent, which indicates that the production per hour is 10,000 x .02, or 200 gallons per hour, or 4,800 gallons per day.

Again: With 10,000 gallons per hour absorption oil to towers, the fat oil saturation is 4 per cent and lean oil saturation is .9 per cent, leaving an available extracting saturation of 3.1 per cent, and, caculating as above, the production should be 310 gallons per hour, or an increase of 110 gallons hourly, to be secured by the proper distillation or stripping of the oil in the still, together with efficient reabsorption in the towers.

Determining Gasoline Content

In addition to efficient laboratory methods for determining oil saturation, is the proper and accurate determination of the gasoline content of the natural gas being treated. This work is usually performed by the activated charcoal absorption method. For the work of sampling natural gas, a Hutchinson orifice meter and gas absorber is often used—as shown in Figure 1. In operation the gas is passed through the pressure regulator and thence through the platinum orifice plate to a cylinder containing 250 cubic centimeters of activated charcoal (cocoanut). The method use in sampling gas is called the temperature rise method, observation being made up to and including the peak of the fourth rise—the tube of charcoal being considered saturated at this point.

The saturated tube is tightly closed and taken to the laboratory for distillation. The distillation is performed under a pressure correlating as nearly as possible to that of plant operation. Fig 2 shows a pressure distillation unit of this type, manufactured by the Braun Corporation. The apparatus is all metal, steel jacketed, portable and an instrument of precision, check distillations usually correspond within .5 per cent.

The sample (saturated activated charcoal) is placed in a copper flask with 200 cubic centimeters of glycerin. The flask is made up tight to the condensing coils with a yoke, and heat is applied. The usual 100 cubic centimeter glass graduate is employed as a receiver, but having no "lip." This cylinder is enclosed in a wire jacket, as shown in the illustration, for the protection of the operator in case of breakage due to pressure, etc. The pressure is allowed to reach 30 pounds per square inch. Any excess pressure is released through a mercury sealed regulator. Distillation at 30 pounds pressure is carried on until about 20 cubic centimeters of glycerin is distilled over—usually a temperature of 550 to 600 degrees Fahrenheit is reached. The volume of condensate (distillate) is then read, while under pressure, disregarding the distilled glycerin, and the gasoline content determined from that volume.

The spent charcoal is washed free of glycerin by using pure distilled water. The glycerin and water being soluble, they are placed in a steam evaporator, thus recovering the glycerin. The glycerin, though dark in color, is reused repeatedly with no apparent deleterious influence to either charcoal or test yield.

Charcoal Reused

The charcoal, or carbon, used in testing, after being washed free of glycerin is then reactivated and prepared for reuse. It is first subjected to steaming with superheated steam, about 400 degrees Fahrenheit, for 12 to 24 hours. Then it is heated in a closed retort made of 6-inch pipe, having a flanged end, the temperature generally reached is about 800 degrees Fahrenheit and held at this temperature about four hours. This insures highly active, gas-free carbon.

Before the charcoal is reused for absorption testing by the testing devision it is checked for activation by the carbon tetrachloride method. Illustration No. 3 shows the apparatus used. A specified amount of charcoal in a small tube represents in miniature a regular sample tube. Compressed air is used as a means of carrying carbon tetrachloride vapors to the charcoal. The air is first dried by passing it through three bottles of sulphuric acid, and then bubbled through three bottles of C. P. carbon tetrachloride, which is immersed in an iced bath at 32 degrees Fahrenheit. The air and carbon tetrachloride vapors then pass through an accurately calibrated platinum orifice meter at the rate of exactly .027 cubic feet per minute, passing downward through the representative sample of charcoal being tested for activation. At the outlet of the miniature charcoal tube is a mixing chamber, through which is flowing ordinary plant dry gas, leading to a burner, in the flame of which is suspended a fine copper coil. When the charcoal becomes saturated with carbon tetrachloride vapors, the excess vapors are given off and travel down the tube to the mixing chamber, into the gas being supplied to the burner, then travel up to the little copper coil, which is at white heat.

The vapors combine with the incandescent copper to form green copper chloride, which is visible to the eye as a green film. Very accurate determinations can be made by observing the flame, etc., through a cobalt glass. The carbon tetrachloride time for good carbon is from 13 to 16 minutes. Multiplying these figures by 3 gives 39 and 48 minutes chloropicrin time — the chloropicrin test being the standard method used by the Government during the late war for testing the carbon supplied for gas masks. The carbon tetrachloride test has the advantage of being faster and is quite as accurate. Any carbon testing below 39 minutes is discarded as being inactive and it is then either retorted again or discarded entirely.

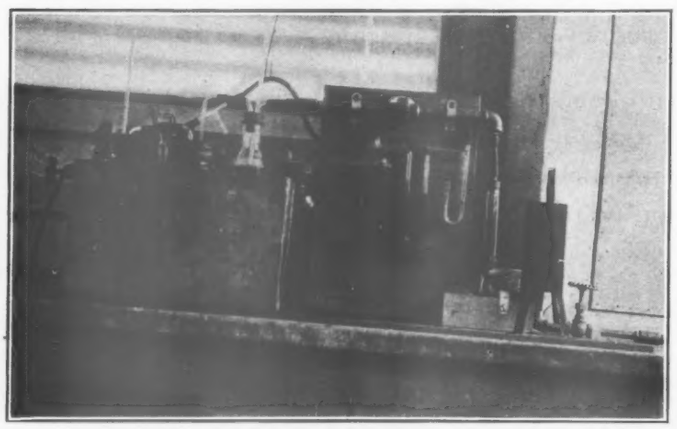

Fig. 3—Carbon tetrachloride testing apparatus for determination of activation of charcoal.

Computing Gas Flow

In computing the gas flow put through the Hutchinson gas absorber to determine the gasoline content of the samples, the specific gravity of the gas must be known. This is determined with the Schilling gas bottle and the Edwards balance. The Edwards balance represents an absolutely accurate method for determining the specific gravity of an unknown gas and is used extensively by many companies desiring accurate gravity determinations.

It has been found that gravities obtained by the Schilling gas bottle are approximately 4 per cent lower than those indicated by the Edwards balance. Gravities obtained in the field by the old effusion method are corrected by the addition of the 4 per cent, insuring reliability in the work conducted by the field men.

In testing producing wells by the charcoal method a complete test car is maintained, together with a Vernon vacuum pump which is fastened to the engine frame and driven by a belt from the fan pulley. The vacuum pump overcomes approximately 10 inches well vacuum and discharges the natural gas at sufficient pressure to run the charcoal and specific gravity test.

While it is true that the chemists and technologists of the industry have promoted developments toward improvement rapidly in the past, and have accomplished remarkable results in their work in recent years, it is confidently expected that much more improvements, in both control methods and in the perfection of more efficient gasoline extracting apparatus and equipment are to be presented to the industry in the near future. There are still a number of developments which will be of greater value than anything heretofore accomplished, and they will solve certain engineering problems pertaining to plant operation, still and tower efficiency, and stabilizer efficiency, that at present remain unsolved or only partially solved.

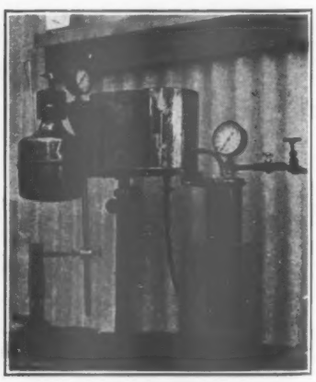

Fig. 2—Apparatus for pressure distillation of gasoline.

*Mr. Reid was aided in the preparation of this article by W. W. Robinson, Jr., chief chemist, California Gasoline Corp.

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PETROLEUM BRIQUETS COMPETE WITH COAL

By F. B. Taylor

CASPER, Wyo., Mar. 6.—The Producers & Refiners Corp. is now installing equipment in its Parco, Wyo. refinery that will be of great interest to every refiner using a cracking process and producing petroleum coke. Although located in a coal mining region, the Parco refinery is preparing to build a briqueting plant that will manufacture fuel. It is expected this form of fuel can be sold to the consumer even cheaper than coal.

The process to be used is known as the Fernholtz. By this process the petroleum coke is formed into bricks by means of pressure and without a binder. The result is a fuel that has more heat units per pound than coal. It is also smokeless and is not subject to spontaneous combustion in storage. It will not break down while burning and it leaves no ash.

It has been known for years among engineers of the country that petroleum coke is an ideal fuel and in the form of briquets it is so superior to coal. In the briquet form it can be used for smelting and other like purposes and the sulphur content is much lower than coke made from coal. On account of the low sulphur content, it is especially adaptable for use in smelting metals.

The machinery for the briqueting plant is arriving at Parco, and C. W. Fernholtz of the Fernholtz Machinery Co. of Los Angeles, is there to install the plant. In anticipation of the building of this plant the Parco refinery has been storing all petroleum coke from its Dubbs cracking units for many months and now has a young mountain of coke ready for the crushers.

England has a considerable trade in briquets made by crushing waste wood or other products with a binder made of tar or refuse petroleum. Also in the West, several plants have been built to make briquets out of the low grade coals, using either tar or heavy petroleum oils as a binder. While the English were successful, the low cost of coal here prevented its being used in a briquet. With petroleum coke, however, the resulting fuel carries so much more heat units per pound than any other fuel except oil or gas, that 1 pound of briquets is considered worth 5 pounds of coal without many of the inconveniences of the latter. The British Thermal Unit of the briquets ranges from 18,000 to 18,500.

Should the experiment at Parco prove successful, under the heavy handicap of being located in the heart of a large coal producing district, it will provide a new outlet for a slow moving commodity produced at refineries. The Casper plants of the Standard Oil Co. of Indiana sell some of their coke locally for domestic heating plants in homes, but the larger part is used in the manufacture of sugar from beets in the large sugar plants here in the West.

RED RIVER OIL COST AVERAGED 79 CENTS

By Charles E. Kern
Washington Bureau,
The Oil and Gas Journal

WASHINGTON, D. C., Mar. 6.—During the 17 months of operation of the Red River oil field, on the Texas-Oklahoma border, by the Department of the Interior, the total production amounted to approximately 308,000 bbls, with an average cost of 79 cents per barrel.

This cost, according to the Geological Survey, comprised general expenses, such as administrative salaries and office maintenance, the lifting and all other operating field charges in connection with the operation of the producing wells and expenditures for the field, camp, construction and repair of bridges and other equipment in use in the field.

The Red River Field with its thirty-odd oil wells was turned over to the Interior Department on July 1, 1924, by the Supreme Court of the United States. Previously a Federal receiver had control over the field since April 1, 1920. Pro-

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It stands to reason that the men having the greatest and most genuine interest in Oil Leases, Production, Royalties, and Equipment are the 25,000 oil men who read The Oil and Gas Journal every week.

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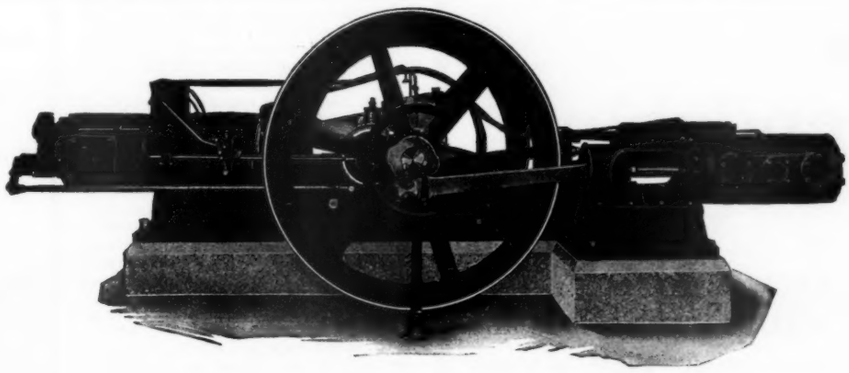

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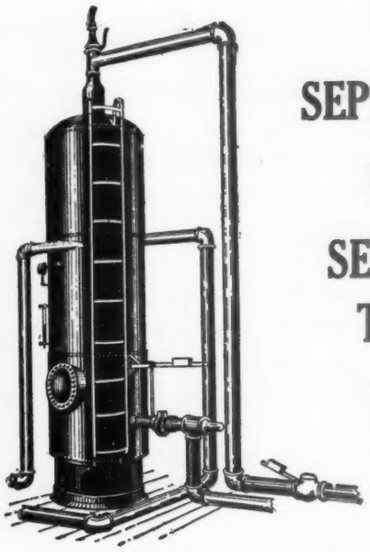

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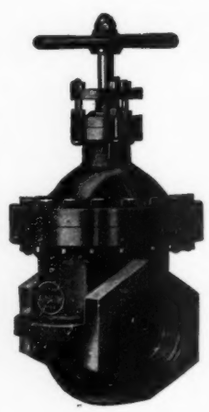

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28

duction during the period of Federal receivership amounted to approximately 2,275,000 bbls. at an average cost of 88 cents per barrel. The wells were running under flush production during this time and some of the larger producers among the wells had become exhausted before or shortly after operation was assumed by the Interior Department.

This is believed to be the first experience of the Federal Government as an active operator of an oil field. One special feature of the situation was that the Red River Field happened to be one of the most difficult. Producing oil from 30 or more wells located along and in the bed of a river susceptible to floods of tremendous volume put hard burdens on the Government engineers. Every emergency was met and the wells were kept in operation.

The Red River Field was turned over to various claimants after leases and permits had been granted them to tracts in the field on December 31, 1925. All the remaining Government property was sold through public auction by the Interior Department.

SCANDINAVIA BUYING 85 PER CENT FROM US

Both Denmark and Norway showed marked increases in the consumption of mineral oils during the past year, owing to the motorization of the two countries, which, after a temporary check during the latter part of 1924 the earlier months of 1925, is now proceeding at a rather rapid rate, according to report to the Department of Commerce by Commercial Attache H. Sorensen, Copenhagen. Continued growth in the number of motor vehicles, as well as oil-consuming power plants, is indicated, and the demand for motor fuels during 1926 may be expected to show an increase fully as large as for 1925.

Danish gasoline imports rose from 75,431 tons during the first 10 months of 1924 to 104,505 during the corresponding period of 1925, while Norwegian receipts advanced from 22,945 tons to 26,037. Danish lubricating oil imports increased from 24,930 tons during the January-October period of 1924 to 34,890 in January-October, 1925, and the corresponding figures for Norway were 7,555 tons in 1924 and 9,080 in 1925. These increases are attributable to the larger use of combustion engines. Denmark at the end of 1925 had approximately 80,000 motor vehicles and 5,000 motor vessels for cargo carrying and fishing purposes, while Norway had 31,000 of the former and 17,500 of the latter.

Danish imports of kerosene and crude oils also showed an increase—the former from 67,985 tons in the first 10 months of 1924 to 79,167 during the corresponding period of 1925, and the latter from 84,015 to 71,913.

The Norwegian consumption of these two varieties declined during this interval from 87,451 tons to 79,557, due, possibly, to the fast increasing use of electricity for light and power-producing purposes.

Competition has remained very keen in both the gasoline and kerosene trade, and the prices obtained, especially for gasoline, have been kept at a relatively low level, although they showed a considerable increase during the third quarter of 1925 through failure to become fully adjusted to the rise in Norwegian and Danish crowns. At present high-grade gasoline sells in Denmark for about 31 ore per liter, which approximates $0.295 per gallon.

The American share in the Scandinavian oil market apparently continues to form about 85 per cent of the total consumption.

In both markets a continued growth in demand is expected, but it appears to be the opinion of the various distributors that there is but small chance for any definite change in competitive and price conditions.

In Norway considerable activity is observed in the development of the use of substitute fuels, most of them having a base of sulphite spirit, of which the country, with its extensive forests and wood-

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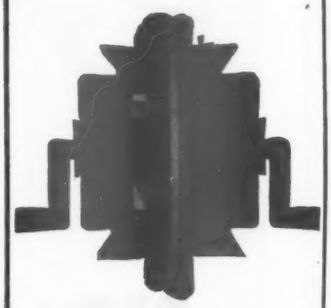

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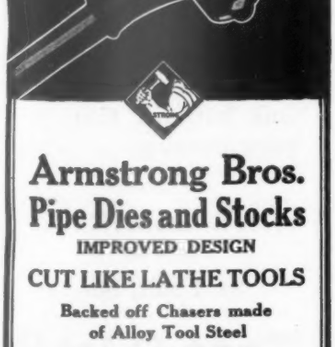

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pulp and paper industries, has an abundant supply. So far the work is only in an experimental stage, but in some instance the progress reported indicates that substitute fuels must soon be reckoned with as an active competitive factor. Norway alone is said to be in a position to supply about 25 per cent of its present consumption of motor fuel from domestic sulphite spirit sources, and the new fuel may be expected to play an especially important role as power source for the Norwegian fishing fleet, which consumes large quantities of petroleum fuels.

NEW JERSEY COMPANY EMPLOYES STOCK PLAN

The Standard Oil Co. of New Jersey announces that it will sell its common stock to employes at $40 a share, for the first half of 1926. This is the first offering to be made under the new plan whereby employes can acquire the company's stock. The original plan, which expired last December 31, ran for five years. The current plan runs for three years, and all employes holding at least two-thirds of the stock acquired under the original plan, may participate in the new plan. Under the arrangement, the company contributes 50 cents of each dollar subscribed by the employe.

Only a few days ago a total of 884,000 shares of the company's common stock, having a market value of approximately $39,000,000, were turned over to 16,358 employes, this being stock acquired under the original offering of the company. The average holdings per employe was 54 shares. In connection with the original plan the employes subscribed $21,260,760 gross and the company $10,630,380; dividends accrued amounted to $1,717,142 and interest $176,279. Those employes who withdrew from the plan before its expiration received their money back with 6 per cent interest, but were not credited with the 50 cents of each dollar subscribed by the company.

Allowing for withdrawals, the employes who received their stock actually contributed only $18,490,425, so that with the company's contribution, interest and market appreciation, the employes' stock is worth about double what they paid for it.

TEXAS INSURANCE RULES

AUSTIN, Tex., Mar. 6.—The most extensive hearing ever ordered for revision of fire insurance rates was set by the Fire Insurance Commission for March 23. Forty-two classes of rates will be reviewed at that hearing, many of them affecting oil field storage risks. Prorata cancellation on petroleum, special insurance on oil in earthen storage, gasoline casinghead plants, oil and gas well lease properties and oil burning equipment are among the items to be taken up.

STUDYING SODA TREATMENT

BRADFORD, Pa., Mar. 6.—Under the direction of the United States Geological Survey, Paul Torrey, of the fuels section, is making a complete study of the Bradford oil fields, with special reference to the use of soda solutions in the water drive to increase the recovery of oil. The process was developed by Dr. P. G. Nutting, geophysicist of the survey, who has prepared recommendations on the matter avai'able to all oil men who are interested in the study.

PETROLEUM TECHNOLOGY CHAIR

Houston, Tex., as again discussing the installing of a chair of petroleum technology at Rice Institute, proposed at a meeting of the oil industries committee of the Chamber of Commerce some years ago.

MEXICAN PRODUCTION

Mexican crude oil production for the week ended February 20, declined 25,287 bbls. daily, averaging 304,856 bbls. Light oil output gained 1,428 bbls. daily at 87,428; heavy oil lost 26,715 bbls. daily at 217,428 bbls.

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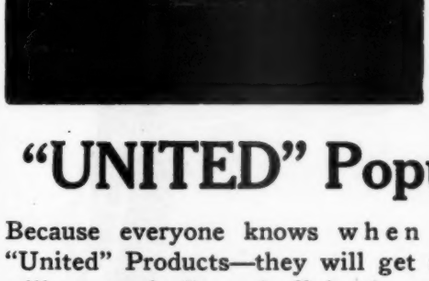

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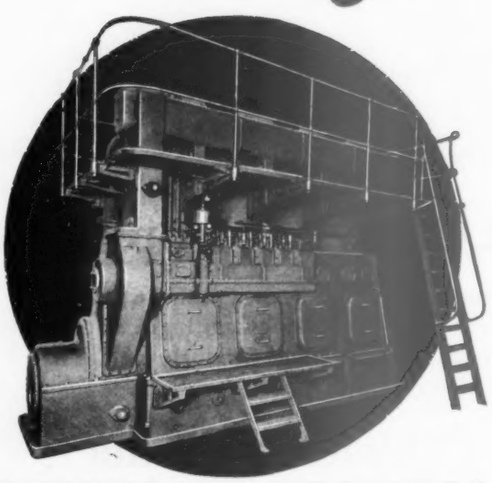

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PROPOSES DISCOVERY ROYALTY FOR WILDCAT

WINFIELD, La., Mar. 6.—W. Gaar, representative from Winn Parish, is preparing a bill to introduce in the coming session of the Legislature designed to stimulate oil development in Louisiana. The purpose of Mr. Gaar's bill is to encourage wildcatting and to insure a reasonable reward to the operator who discovers a new oil field. Very few of the wildcat operators that have discovered a new field have ever reaped the financial reward to which they were entitled, it is held. Mr. Gaar's bill will correct this by giving the discoverer of any new oil or gas field a small royalty on all oil or gas produced on lands within a radius of three mills of the discovery well.

The main features of the Gaar bill are that the person or company that brings in a discovery well in wildcat territory will own 3 per cent of all oil or gas produced on all lands within 1 mile of the discovery well, 2 per cent of all oil and gas on lands 2 miles away and 1 per cent on lands between the 2 and 3-mile radius. It is proposed to class any territory, that is 6 miles from actual production, "wildcat" territory.

If this bill passes, and the law becomes effective, the wildcat operator will not need to secure a bock of several thousand acres in order to protect himself. He could afford to make a location anywhere that there is a likely chance of getting production and feel secure of being repaid for his efforts.

CHAMBER OF MINES BANQUET

LOS ANGELES, Calif., Mar. 6.—The annual banquet of the Chamber of Mines and Oil of California will be held in Los Angeles, Wednesday evening, April 7. Preparations are being made to entertain over 1,000 California oil and mining men. Arrangements are in the hands of the Wildcats, the special committee that has handled the recent interesting luncheons of the chamber. The speaking and entertainment program has not yet been perfected but the committee promises to outdo the success of last year when more than 900 oil men attended the largest banquet ever held by the chamber. Seats for this year's banquet will be allotted only by special reservation, for which blanks will shortly be mailed.

LEGAL

NOTICE OF SALE OF STATE'S ROYALTY OIL, SALT CREEK FIELD, NATRONA COUNTY, WYOMING.

Notice is hereby given that the State Board of Land Commissioners of Wyoming will receive and consider sealed bids for the purchase of the royalty oil of the state derived from leases on all Section 36, Township 40n, Range 79w; all Section 16, Township 39n, Range 78w, and SE¼ SE¼ SE¼ Section 16, Township 40n, Range 79w, Salt Creek Field, Natrona County, Wyoming, for the period from May 1, 1926, to September 30, 1929, inclusive.

The state's production for the last year average 66,970 barrels a month.

The following conditions must be complied with:

1. Bid must be received at the office of the Commissioner of Public Lands, Capitol Bldg., Cheyenne, Wyoming, on or before 10 o'clock a. m., March 31, 1926.
2. No bid will be entertained for less than Mid-Continent posted price or Salt Creek posted price, whichever is the higher, and for not less than $1.50 per bbl. for all gravities of oil; said oil must be refined in the State of Wyoming.
3. Bid must be accompanied by $1 filing fee and a certified check for $25,000, payable to the Commissioner of Public Lands, as a guarantee that should the bid be accepted by the board, the terms will be fulfilled by the bidder.
4. Each envelope containing a bid must be distinctly marked: "BID FOR ROYALTY OIL." All individuals or association of individuals not incorporated companies shall be required to submit a sworn statement of all individuals or companies interested in their bid.

The board, in offering the royalty oil for sale, is influenced by a desire to aid the upbuilding of the oil industry of the state, and, in considering bids, that bid will be accepted which in the opinion of the board is in line with this policy. Therefore, the amount offered for the oil in any bid will not be the sole consideration in arriving at a decision.

The board reserves the right under the law to reject each and all bids.

NELLIE TAYLOE ROSS (Sgd.)
Governor, President State Board of Land Commissioners.
(SEAL)

C. H. McWHINNIE (Sgd.)
Commissioner of Public Lands, Secretary.

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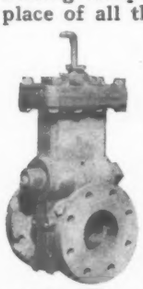

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D. J. Moran Tells Who Is in Oil Business In Striking Article

By D. J. Moran*

Vice President, Manager Producing Department, The Texas Co.

Public sentiment has a tendency to pile up into tidal wave proportions. Unless enlightened by correct information it loses the stimulating and colorful effect of temperate impulses. Prejudices and passions often leave devastation behind them. There are those who look upon the hurricane with trembling, yet do not hesitate to fan the whirlwinds of ignorance and folly! Of course, I am not suggesting that it would be well for human activities to find a dead level. The orderly ebb and flow of economic forces are to social life what the regular tides and currents of the seas are to the life within the waters. Business has its ups and downs which strengthen its structure and purify its methods.

Rapt preoccupation with problems at hand often blinds us to the far-reaching and intimate connections of our efforts with the work of others. One has only to meet people in any group to sense the natural interest they feel in the activities about them. Who has not heard the query in hotel lobby or Pullman smoker, "What line do you follow?" or "What's your business or profession?" And it is heartening to witness the enthusiasm and loyalty of each to his "bread and butter," and to see the respect paid to the opinions of those who speak with authority as knowing the integrity of their own business and understanding its problems. Many untrue or exaggerated statements leveled at the legitimate oil business are largely due to hasty generalizations based upon the familiar dealings of the fly-by-night operator.

Keeping in mind the fluctuating market conditions, the ever-increasing burden of a multitude of taxes (exceeding 50 per cent of the net earnings in 1924), the natural hazards of the producing end, let us briefly review a few facts concerning the operations of The Texas Co. so as to have a clearer idea of this business and its extensive activities touching the livelihood of thousands of citizens in order that the question, "Who is in the oil business?" may be at least partially answered.

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By careful husbanding of earnings it has been possible to mail regularly dividend checks to over 30,000 stockholders living in Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, the District of Columbia, Alaska, Hawaii, Philippine Islands, Porto Rico, Canal Zone, and to a few stockholders living in foreign countries. All professions and people in the various walks of life are represented in this group who have invested their savings in the company. They are vitally interested in the successful conduction of the business and in the maintenance of its strong position. None should be more enthusiastic boosters of the Red Star and Green T than they. To their unfailing support of the counsel of the board of directors is due in no small degree the successes gained.

The aggregation of sufficient wealth from many relatively small sources to build business capable of producing, manufacturing, distributing and marketing products in volume to utilize the machinery and improvements of invention, is one of the growing achievements of modern times. Aside from all sentimental vaporings, the pregnant fact forces itself upon us that only by such accumulation

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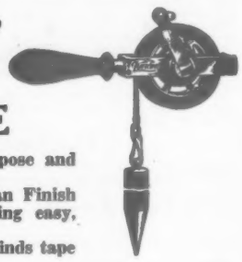

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Monthly Pay Roll

Turning from the owners to the employe personnel noted for their spirit of "All for Each—Each for All," the monthly average number of persons on the pay rolls last year was 19,911. Thus we may reasonably assume that well over 60,000 souls are entirely dependent upon salaries or wages paid by this company. Throughout the length and breadth of this great land and wherever Texaco products are marketed, our ability to issue these salary checks adds its quota to the general prosperity. Salary expense alone runs into figures that stagger the imagination. Who can realize the multifarious transactions adding to the flow of commodities through the many trade channels of an annual pay roll of over 36,000,000 of dollars? We are justly proud of this contribution to human well-being, and only a man blinded by morbid thoughts would fail to give this fact its rightful recognition.

Pleasing as this prospect appears it merely reveals a section of the picture. Besides those in the regular employ of the company and their families, many merchants, doctors, lawyers, bankers, supply houses, jobbers, manufacturers of raw materials, lumber interests, transportation companies by land and sea, and others are more or less directly interested in the successful conduct of our operations for their financial rewards. Our sales stations and equipment exhibit an investment in "outside" commodities of no mean proportions. Try to estimate the equipment and labor represented in six refineries, three topping plants, four asphalt plants, acid plants, casing and box factory, can factory, shook mills, besides 28 deep water terminals, and the magnitude and variety of such collateral interests will begin to be appreciated.

Over 4,600 miles of pipe lines with pumping equipment and operating 10,000 miles of telegraph and telephone lines represent no insignificant activity. Those who understand transportation will especially value the facts that the total mileage of the company cars alone in 1924 was over 70,000,000 of miles over the railroads of this country and that we operate 19 steam vessels in addition to motor or vessels, tugs and barges.

Outside Beneficiaries

Reading over the titles of relationship of those other than regular employes who receive checks from the producing department instantly reminds one of law books. How lawyers roll these words over their tongues! Lessor, lessee, joint operator, overriding royalty owner, royalty owner, sublessor, sublessee, etc., are specimens that daily need accurate and legal defining in the contractual relations entered into. As an indication of such relations, this department monthly sends over 2,000 checks to royalty owners living in 29 states and the District of Columbia. Each check usually represents an individual interest ranging from .00000204 to .16666666. These do not include point interest holders, water rentals or other interests. The average number of checks issued annually totals over 120,000—another item showing the extent of this department's transactions. With what diversity of enthusiasm are these slips of paper received, depending upon the need of the recipient. Mayhap some farmer in the drought area looks to his lease money for living expenses until he is able to sow and reap another crop.

At this season of critical self examination when

"Custom hangs upon us with a weight
Heavy as frost, and deep almost as life."

It is also appropriate to review in all humility the good work accomplished. "Better is the sight of the eyes than the wandering of the desire." Those of us whose life work is bound up in the oil business know that, in spite of innuendo uttered from mischevious design sowing discord to perplex counsel or retard legitimate success, our efforts are worthy and fulfill industrial and economic requirements of the whole people. As it has been skillfully worded: "Political economy (the economy of a state or of citizens) consists simply in the production, preservation, and distribution, at

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fittest time and place, of useful or pleasurable things." Whether they be farmers or shipwrights, merchants or truck drivers, builders or oil men, they are all adding continually to the riches and well-being of their country.

In the scope of this article and probably in the nature of this subject "Who is in the oil business?" I could necessarily only suggest the intricate and delicate interconnection of any large business activity with the varied work of the world about it. Perhaps this intimate association from which thousands of citizens get their bread and butter I could leave with you in the wish for our continued success in the years ahead.

OIL SAFETY COUNCIL TO MEET AT HOUSTON

The third annual convention of the Petroleum Safety Council of the Mid-Continent Oil & Gas Association will be held at the Rice Hotel, Houston, Tex., March 19 and 20. The two-day meeting will be devoted to the presentation of prepared addresses and discussions covering all phases of safety work.

The following program has been completed:

Morning session, 10 o'clock, Friday, March 19:

Opening Remarks—Henry W. Boggess, president, Petroleum Safety Council.

Report of Treasurer—Harry H. Smith.

Report of Safety Director—Ray E. Miller.

An Eulogy—D. J. Wallace, safety engineer, Humble Oil & Refining Co.

Safety, a Factor in Modern Industry—W. S. Farish, president, American Petroleum Institute; president Humble Cos., Houston, Tex.

Meeting board of directors at noon.

Afternoon session, 2 o'clock.

The Safety of a Nation's Workers—W. H. Cameron, managing director, National Safety Council, Chicago.

Methods a Producing Company May Employ—C. L. Swim, safety director, Skelly Oil Co., Tulsa. Discussion.

Value of First Aid Training to Employes—E. D. Murphy, safety engineer, Mid-Continent Petroleum Corp. (Cosden), Tulsa. Discussion.

Statistics—Ray E. Miller, safety director, Petroleum Safety Council. Discussion.

Foremens' Meetings—F. A. Pielsticker, vice president, Skelly Oil Co., Tulsa. Discussion.

Good Housekeeper — Ralph Banister, safety engineer, Gypsy Oil Co., Tulsa. Discussion.

Committees scheduled for meetings, Friday evening, March 19:

Joint Membership Committee—J. S. Gibson, general chairman.

Nominating Committee—George Hannum, chairman.

By-Law Committee—C. L. Swim, chairman.

Morning Session, 10 o'clock, Saturday, March 20.

Safety Laws—Claude E. Connally, Commissioner of Labor, State of Oklahoma.

Report of Joint Membership Committee—J. S. Gibson, Prairie Pipe Line Co.

Report of By-Law Committee—C. L. Swim, Skelly Oil Co., Tulsa.

Report of Nominating Committee—George Hannum, Mid-Continent Petroleum Corp., Tulsa.

Election of officers.

Unfinished business.

PIPE LINE EXTENSION PLANS GOING FORWARD

HOUSTON, Tex., Mar. 6.—The Texas Co. has completed about one-half of the 22-mile extension of its 8-inch pipe line from West Columbia to the Boling Pool. The Humble Oil & Refining Co. contemplates laying an 8-inch line to Boling from West Columbia and the Sinclair Pipe Line Co. of Texas proposes a 6-inch extension from Damon Mound to Boling. That company now has a line from Damon Mound and West Columbia to its refinery on the Houston ship channel. It has production at Damon Mound and runs royalty oil from the Hogg and other

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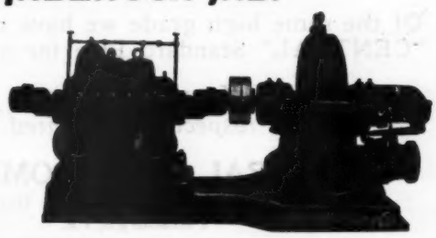
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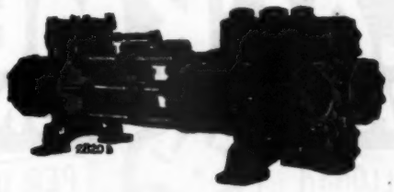
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leases at West Columbia on which it pays a premium of 15 cents per bbl. over the posted price. The Humble laid an 8-inch line from West Columbia north to Nash Dome, 12 miles.

The Humble Pipe Line Co. has made a survey for a line from a point on the Gulf near Corpus Christi to Duval County, a distance of approximately 65 miles. The line will probably be hurried forward now that the Cin-Tex Oil Co. has a 1,000-bbl. well shut in in the Cole district in the western part of that county. The Humble Oil & Refining Co. has a light gravity well off the east edge of the Piedras Pintas Pool, near Noledo and is drilling another test. The Grayburg Oil Co., Moody & Seagraves Co. and Magnolia Petroleum Co., E. L. Smith Oil Co. and J. K. Hughes Co. are also drilling off Pintas Dome.

It is reported here that the Magnolia Pipe Line Co. will extend its trunk line from the Wichita Falls section up into the Panhandle region. This report has not been confirmed yet. The Magnolia Petroleum Co. has opened a district office at Amarillo, with P. J. McNamara, transferred from Corsicana, as a buyer of crude.

The Magnolia Pipe Line Co. is laying an 8-inch line from the Cin-Tex Oil Co.'s discovery well in the Bruin district, Duval County, to its tank farm at Oilton, near Mirando City. The line will be completed this week and the shut-in well will be opened. The Magnolia Co. has abundant storage tanks at Oilton.

READ THE
Classified Ads
Pages 116-117
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FINAL PAYMENT ON BARCO

Gulf Oil Corp. has made a third and final payment under its option to purchase from Cities Service Co. the latter's 75 per cent interest in Colombian Petroleum Co. of Delaware. Colombian Petroleum of Delaware is a holding company for the entire stock of Compania Colombiana del Petroleo of Colombia, South America, which owns the Barco concession of that country. Total consideration for which Cities Service Co. sold its 75 per cent interest in Colombian Petroleum to the Gulf has not been officially stated, but is understood to have been about $1,500,000.

BLAFFER CASE POSTPONED

AUSTIN, Tex., Mar. 6.—The state's $50,000,000 oil suit against R. L. Blaffer and operators in the Humble Field, seeking recovery of title to portions of the field and of compensation for oil taken from the field, was reset in Travis County District Court for May 17.

LEGAL

TRIBAL OSAGE OIL LEASES AT PUBLIC AUCTION, MARCH 17 AND 18, 1926, BY U. S. GOVERNMENT.

March 17 and 18, 1926, at Pawhuska, Oklahoma, about 115,000 acres will be offered for oil leases in quarter-section tracts. Bids will be for bonus in addition to royalties, 25% payable on day of sale, balance in three annual installments, with acceptable security. Within advertised area there are about 9,479 oil wells producing from one barrel to 1,300 barrels each, the total daily production for December, 1925, being about 70,000 barrels; also, there are about 80 wells drilling. All lands are now leased separately for gas. Blue print maps of area advertised, showing tracts producing oil or gas, can be had for fifty cents each, also logs of producing oil or gas wells for twenty-five cents each well. Write U. S. Superintendent, Osage Agency, Pawhuska, Oklahoma, for maps, logs or other information.

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Bushings—Rotary Drive—
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C

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Federal Supply Co.
Heppenstall Forge & Knife Co.

Cables—Drilling, Manilla—
Ajax Rope Co., Inc.
Columbian Rope Co.
Frick-Reid Supply Co.
Wall Rope Works, Inc.

Cables—Steel—
Ajax Rope Co., Inc.
American Cable Co.
Black Steel & Wire Co.
Broderick & Bascom Rope Co.
Continental Supply Co.
Frick-Reid Supply Co.
Hazard Mfg. Co.
Leschen, A. & Sons Rope Co.
Longhart Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Republic Supply Co.
Wickwire-Spencer Steel Corp.

Calf Rope—
Ajax Rope Co., Inc.

Calf Wheels—Steel—
Emsco Derrick & Equipment Co.
International Derrick & Equipment Co.
Moore, Lee C. & Co., Inc.

Cannon—Oil Field—
Braden Co.

Cans—Water—
Gott, H. P. Mfg. Co.

Capping Steel—
Andrews Steel Co.

Carbon—Black Diamond—
Diamond Drill Carbon Co.
Patrick, R. S.

Cars—Tank—
American Car & Foundry Co.
General American Tank Car Corp.
Shippers' Car Line, Inc.

Cars—Tank, Leased—
American Car & Foundry Co.
North American Car Co.
Shippers' Car Line, Inc.

Casing—
Bovaird Supply Co.
Continental Supply Co.
Jarecki Mfg. Co.
National Supply Co.
National Tube Co.
South Chester Tube Co.
Spang, Chailfant & Co., Inc.
Superior Tube Co.

Casing—Wrought Iron—
Byers, A. M. Co.
Reading Iron Co.
South Chester Tube Co.

Casing Elevators (See Elevators, Casing and Tubing)—

Casinghead Gasoline Equipment—(See Natural Gasoline Plant Equipment)—

Casing Heads—
Dresser, S. R. Mfg. Co.
Kansas City Hay Press Co.
Oil Well Improvements Co.

Casing Lines—
Ajax Rope Co., Inc.

Casing Packers (See Packers)—

Casing Pulleys (See Pulleys)—

Casing Shoes—
Baker Casing Shoe Co.
Bartlesville Supply Co.
Bridgeport Machine Co.
Guiberson Corp.
Oil Well Supply Co.

Casing Tongs (See Tongs)—

Castings—Alloy Steel—
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

Castings—Brass—
Progressive Brass Mfg. Co.

Castings—Chrome Nickel Steel—
Sivyer Steel Casting Co.

Castings—Corrosion Resisting Non Ferrous—
Hills-McCanna Co.

Castings—Electric Steel—
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

Castings—Grey Iron—
Ajax Iron Works.
American Car & Foundry Co.
Cunningham Co.
Gaso Pump & Burner Mfg. Co.

Castings—Steel—
Ajax Iron Works.
Chicago Steel Foundry Co.
Nugent Steel Casting Co.
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

Cement—Fire and High Temperature—
Botfield Refractories Co.

Cement—Portland—
Monarch Cement Co.

Centrifugal Pumps (See Pumps)

Chain Pipe Tongs (See Tongs)—

Chains—Conveying—
Chain Belt Co.
Link-Belt Co.

Chains—Oil Well—
Chain Belt Co.
Link-Belt Co.
Lufkin Fdry. & Machine Co.

Chains—Power Transmission—
Chain Belt Co.
Link Belt Co.

Check Valves (See Valves)—

Chemical Glassware for Laboratory Use (See Glassware)—

Chemical Treatment Crude Oil Emulsion—
Barnickel, Wm. S. & Co.

Chlorine—Liquid—
Mathieson Alkali Works, Inc.

Chrome Nickel Steel Castings (See Castings)—

Circulating Heads—
Wilson Oil Tools Corp.

Clamps—Anchor—
Bartlesville Supply Co.

Clamps—Belt—
Federal Supply Co.

Clamps—Collar Leak—
Dayton Pipe Coupling Co.
Dresser, S. R. Mfg. Co.

Clamps—Hoisting—
Newton Process Mfg. Co.

Clamps—Pipe—
Dayton Pipe Coupling Co.
Dresser, S. R. Mfg. Co.

Clamps—River—
Dresser, S. R. Mfg. Co.
Gaso Pump & Burner Mfg. Co.

Cloths—Wiping—
Nye Tool & Machine Works.

Clutches—Friction, Plate Type—
Twin Disc Clutch Co.

Cocks—Brass and Iron—
Lunkenheimer Co.
Walworth Mfg. Co.

Cocks—Plug—
Homestead Valve Mfg. Co.

Cocks—Water Gauge—
Smith Separator Co.

Coils and Bends—Pipe—
Harrisburg Pipe & Pipe Bending Co.
Midwest Piping & Supply Co.

Collar Leak Clamps—(See Clamps)

Compounds—Boiler—
Dearborn Chemical Co.

Compounds—Joint Sealing—
Key Boiler Equipment Co.

Compressor Cylinders (See Cylinders—Compressor)—

Compressors—Air—
Bessemer Gas Engine Co.
Clark Brothers Co.
Cooper, C. & G. Co.
Gardner Governor Co.
Sullivan Machinery Co.
Worthington Pump & Machinery Corp.

Compressors—Ammonia—
Carbondale Machine Co.
Cooper, C. & G. Co.

Compressors — Direct Connected Motor and Gas Engine Driven
Buffalo Gasolene Motor Co.
Clark Brothers Co.
Cooper C. & G. Co.
Miller Improved Gas Engine Co.

Compressors—Direct Driven Air and Gas—
Bessemer Gas Engine Co.
Miller Improved Gas Engine Co.

Compressors—Gas—
Bessemer Gas Engine Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Cooper, C. &. G. Co.
Hope Engineering & Supply Co.
Ingersoll-Rand Co.
National Transit Pump & Machine Co.

Compressors—Portable—
Ingersoll-Rand Co.

Condenser Boxes—
Kaw Boiler Works Co.
Petroleum Iron Works Co.

Condensers—
Ross Heater & Mfg. Co.
Southwestern Engineering Co. Inc.
Southwestern Engineering Corp.

Consulting and Contracting Engineers (See Engineers)—

Controllers—Liquid Level—
Fisher Governor Co., Inc.
Newton Process Mfg. Co.
Smith Separator Co.

—Controllers—Pressure—
Smith Separater Co.

Controllers—Temperature—
Brown Instrument Co.
Foxboro Co., Inc.
Taylor Instrument Co.

Conveyors—Portable Belt—
Barber-Greene Co.

Cooling Towers—Atmospheric—
Braun, C. F. & Co.

Cordage—
Bridgeport Machine Co.
Continental Supply Co.
International Supply Co.

Core Drilling—
Longyear, E. J. Co.
Mineral Exploration Co.
Spengler Core Drilling Co.

Core Drills—Diamond—
Longyear, E. J. Co.
Sullivan Machinery Co.

Coring Tools—
Reed Roller Bit Co.
Spengler Core Drilling Co.
Wilson Oil Tools Corp.

Corrugated Sheets, Black and Galvanized (See Sheets)—

Couplings—Flexible—
Nuttall, R. D. & Co.

Couplings—Plain End Pipe—
Dayton Pipe Coupling Co.
Dresser, S. R. Mfg. Co.

Couplings—Seamless Steel—
Harrisburg Pipe & Pipe Bending Co.
Superior Tube Co.

Couplings—Steel for Casing, Line Pipe, Drill Pipe and Tubing—
Dayton Pipe Coupling Co.

Cracking Processes—
Graver Corp.
Kellogg, M. W. Co.
Universal Oil Products Co.

Crawler Treads—
Full Crawler Co.

Crown Blocks—
International Derrick & Equipment Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
Moore, Lee C. & Co., Inc.
Parkersburg Rig & Reel Co.
Slater Brothers Turnbuckle Derrick Co.

Cups—Composition—
Williamsport Development Co.

Cutters—Pipe—
Borden Co.
Nye Tool & Machine Works
Trimont Mfg. Co.

Cylinders—Compressor—
Hope Engineering & Supply Co.

Cylinder Stocks—
Barnsdall Refining Co.
Pure Oil Co.
The Texas Co.

D

Dehydrating Process—
Barnickel, Wm. S. & Co.

Dephlegmators—
Newton Process Mfg. Co.

Depletion Reports—
American Appraisal Co.

Derricks—Steel—
Emsco Derrick & Equip. Co.
International Derrick & Equipment Co.
Marion Mch., Fdy. & Supply Co.
Moore, Lee C. & Co., Inc.
O'Brien Steel Construction Co.
Parkersburg Rig & Reel Co.
Slater Bros. Turnbuckle Derrick Co.
Superior Tube Co.

Derricks—Turnbuckle—
National Turnbuckle Derrick Co.
Slater Bros. Turnbuckle Derrick Co.

Diamond Core Drills (See Core Drills—Diamond—

Diamonds for Core Drilling (See Carbon—Black Diamond)—

Die Heads—Automatic Screw Cutting—
Landis Machine Co.

Die Heads—Bolt Threading—
Bignall & Keeler Machine Works.
Landis Machine Co.

Die Heads — Stationary Pipe Threading—
Bignall & Keeler Machine Works.
Cox & Sons Co., The
Landis Machine Co.
Standard Engineering Co.

Diesel Engines (See Engines)—

Dies—Pipe Threading—
Bignall & Keeler Machine Works.
Cox & Sons Co., The
Landis Machine Co.
Nye Tool & Machine Works.
Standard Engineering Co.

Differential Pressure Recorders (See Recorders)—

Direct Driven Pumps (See Pumps)

Disc Bits (See Bits—Disc)—

Dissolved Acetylene (See Acetylene)—

Distillate—
Acme Petroleum Co.

Ditchers—Pipe Line—
Barber-Greene Co.
Buckeye Traction Ditcher Co.

Draw Works—
Emsco Derrick & Equipment Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
National Supply Co.
Titusville Iron Works Co.

Drillers Hose (See Hose)—

Drilling and Fishing Tools—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bovaird & Seyfang Mfg. Co.
Bovaird Supply Co.
Bridgeport Machine Co.
Brown Welding & Machine Co.
Burns Tool Co.
Continental Supply Co.
Hinderliter Tool Co.
Hughes Tool Co.
International Supply Co.
Larkin & Co.
Leidecker Tool Co.
Lucey Mfg. Corp.
Murray Tool & Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Spang & Co.
Star Drilling Machine Co.
U. S. Tool Co.

Drilling Engines (See Engines)—

Drilling Equipment—
Clark Brothers Co.
Hughes Tool Co.
O'Brien Steel Construction Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Star Drilling Machine Co.

Drilling Gate Valves (See Valves)

Drilling Machines—
Leidecker Tool Co.
Oil Well Supply Co.
Star Drilling Machine Co.

Drilling Tools (See Drilling and Fishing Tools)—

Drilling Valves (See Valves)—

Drills—Portable Air—
Chicago Pneumatic Tool Co.

Drills—Portable Electric—
Chicago Pneumatic Tool Co.

Drive Shoes—
Bartlesville Supply Co.
Larkin & Co.

Drop-Forged Wrenches (See Wrenches)—

Drops and Seats—
Norris Brothers, Inc.

Drums (See Barrels)—

Dynamos—
Westinghouse Electric & Mfg. Co.

E

Electric Equipment—
Fairbanks-Morse & Co.
Pyle National Co.
Wico Electric Co.

Electric Apparatus (See Apparatus—Electric)—

Electric Drilling Equipment—
Lucey Mfg. Corp.
Westinghouse Electric & Mfg Co.

Electric Pumping and Pulling Motors (See Pumping and Pulling Motors—Electric)—

Electric Steel Castings — See Castings—Electric Steel)—

Elevators—Casing and Tubing—
Bovaird Supply Co.
Bridgeport Machine Co.
Dunn Mfg. Co.
Lucey Mfg. Corp.
Oil Well Supply Co.
Wilson Oil Tools Corp.

Elevators—Rod—
D & B Pump & Supply Co.
Dunn Mfg. Co.

Enamels—
Arco Company, The
Shermin-Williams Co.

Engineers—Consulting and Contracting—
Hope Engineering & Supply Co.
Kellogg, M. W. Co.
Power Specialty Co.
Westcott & Greis.

Engineers—Fire Protection—
Foamite-Childs Corp.

Engineers—Oil Buildings—
Austin Co.
International Derrick & Equipment Co.

Engines—Oil Treating—
Barnickel, Wm. S. & Co.

Engines—Crude Oil—
Western Machinery Co.

Engines—Diesel—
Bessemer Gas Engine Co.
Busch-Sulzer Bros. Diesel Engine Co.
Foos Gas Engine Co.
McIntosh & Seymour Corp.
Western Machinery Co.
Worthington Pump & Machinery Corp.

Engines—Drilling—
Ajax Iron Works.
Beaver Manufacturing Co.
Bessemer Gas Engine Co.
Bovaird & Seyfang Mfg. Co.
Buda Co.
Buffalo Gasolene Motor Co.
Clark Brothers Co.
Continental Supply Co.
Franklin Valveless Engine Co.
Hercules Motor Corp.
Lufkin Foundry & Machine Co.
Pattin Bros. Co.
Power Mfg. Co.
Republic Supply Co.
Titusville Iron Works Co.

Engines—Gas—
Bessemer Gas Engine Co.
Bruce-MacBeth Engine Co.
Buda Co.
Buffalo Gasolene Motor Co.
Chicago Pneumatic Tool Co.
Clark Bros. Co.
Cooper, C. & G., Co.
Emsco Derrick & Equipment Co.
Foos Gas Engine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering & Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Jones, S. M. Co.
Marion Mch., Fdy. & Supply Co.
Miller Improved Gas Engine Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pattin Bros. Co.
Reid, Joseph, Gas Engine Co.
Titusville Iron Works Co.
Waukesha Motor Co.
Western Machinery Co.

Engines—Gasoline—
Buda Co.
Buffalo Gasolene Motor Co.
Climax Engineering Corp.
Continental Motors Corp.
Fairbanks-Morse & Co.
International Harvester Co. of America.
Novo Engine Co.
Waukesha Engine Co.
Western Machinery Co.

Engines—Oil—
Bessemer Gas Engine Co.
De La Vergne Machine Co.
Fairbanks-Morse & Co.
Franklin Valveless Engine Co.
International Harvester Co. of America.
McIntosh & Seymour Corp.
National Supply Co.
Oil Well Supply Co.
Power Mfg. Co.
Reid, Joseph, Gas Engine Co.
Western Machinery Co.

Engines—Rotary—Steam—
Baker Motors, Inc.

Engines—Semi-Diesel, Oil—
Chicago Penumatic Tool Co.

Engines—Steam—
Ajax Iron Works.
Baker Motors, Inc.
Frick-Reid Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.

Evaporators—
Newton Process Mfg. Co.

Expansion Pistons (See Pistons)—

Extinguishers—Fire—
Amdyco Corp.
Foamite-Childs Corp.

F

Fabricators for Gasoline Plants and Refineries—
Stearns-Roger Mfg. Co.

Filters—Oil—
Burt Mfg. Co.

Fire Extinguishers (See Extinguishers)—

Fishing Tools (See Drilling and Fishing Tools)—

Fish Tail Bits (See Bits)—

Fittings—Dropped Forged Steel—
Vogt, Henry, Machine Co.

Fittings—Malleable & Cast Iron—
Bovaird Supply Co.
Crane Co.
Frick-Reid Supply Co.
Kelly & Jones Co.
Walworth Mfg. Co.

Fittings—Pipe—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.
Gaso Pump & Burner Mfg. Co.
Jarecki Mfg Co.
Kellogg, M. W., Co.
Kennedy Valve Mfg. Co.
Lufkin Foundry & Machine Co.
Metric Metal Works.
Oil Well Supply Co.
Reading Steel Casting Co.
Republic Supply Co.
United Iron Works, Inc.

Fittings—Steel—
Dayton Pipe Coupling Co.
Kelly & Jones Co.
Ohio Steel Foundry Co.
Pittsburgh Reinforced Brazing & Machine Co.

Flanges—Brass, Iron and Steel—
Kelly & Jones Co.
Metric Metal Works.

Flange Unions—
Gaso Pump & Burner Mfg. Co.

Flashlights—
National Carbon Co.

Floating Roofs and Decks—
Chicago Bridge & Iron Works.

Floodlights—
Pyle-National Co.

Floor Circle Braces (See Braces)

Force Feed Lubricators (See Lubricators)—

Forging Billets—
Andrews Steel Co.
Harrisburg Pipe & Pipe Bending Co.
Heppenstall Forge & Knife Co.

Forgings—
Champion Machine & Forging Co.
Milwaukee Forge & Machine Co.

Friction Cluth Pulleys (See Pulleys)—

Fuel Oil (See Oil—Fuel—

G

Gas and Oil Gate Valves (See Valves)—

Gas Compressors (See Compressors—Gas)—

Gas Engines (See Engines—Gas)

Gas Holders—
Chicago Bridge & Iron Works.

Gaskets—
Garlock Packing Co.
McCord Radiator & Mfg. Co.

Gaskets—Fibre—
Durabla Mfg. Co.

Gas Masks & Safety Appliances—
Mine Safety Appliance Co.

Gas Meters (See Meters)—

Gas Oil (See Oil—Gas)—

Gasoline—
Berry's, James B. Sons Co.
Crown Central Petroleum Co.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.

Gasoline—Natural—
Chestnut & Smith Corp.

Gasolene Plant Equipment—
Bessemer Gas Engine Co.
Clark Brothers Co.
Kellogg, M. W., Co.
Newton Process Mfg. Co.

Gas Regulator Casinghead—
Davis Regular Co.

Gas Regulators—
Chaplin Fulton Mfg. Co.
Davis Regulator Co.
Fisher Governor Co.
Metric Metal Works.
Smith Separator Co.

Gas Scrubbers—
Newton Process Mfg. Co.

Gauge Glass—High Pressure—
Durabla Mfg. Co.

Gauge Poles—
Marsh Gauge Pole Co.

Gauges—Pressure and Vacuum—
Bristol Co.
Metric Metal Works.

Gauges—Test—
Metric Metal Works.

Gear Driven Pumps (See Pumps)

Gears—Cut—
Nuttall, R. D., & Co.

Gears—Reduction—
Emsco Derrick & Equipment Co.
Nuttall, R. D., & Co.

Gears—Reverse—
Emsco Derrick & Equipment Co.

Generators—
Westinghouse Electric & Mfg. Co.

Generators—Acetylene—
Oxweld Acetylene Co.

Generators—Steam—
Baker Motors, Inc.

Generators—Turbine—
Moon Manufacturing Co.
Pyle-National Co.
Westinghouse Electric & Mfg. Co.

Glass Bottles (See Bottles, Glass)

Glassware—Chemical for Laboratory Use—
Illinois Glass Co.

Governors —
Gardner Governor Co.

Governors—Boiler Feed—
Chaplin-Fulton Mfg. Co.
Fisher Governor Co.

Grey Iron Castings (See Castings)

H

Hammers—Chipping and Calking Pneumatic—
Chicago Pneumatic Tool Co.

Hammers—Riveting Pneumatic—
Chicago Pneumatic Tool Co.

Hangers—Iron and Steel—
Dodge Mfg. Corp.

Hatches—Gauge and Thief—
Oil Conservation Engineering Co.

Heat Exchangers—
Carbondale Machine Co.
Griscom-Russell Co.
Hope Engineering & Supply Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.

Heat Interchanges—Fluid—
Braun, C. F. & Co.

High Pressure Gate Valves (See Valves)—

Hoists—Pneumatic, Geared and Universal—
Chicago Pneumatic Tool Co.
Yale & Towne Mfg. Co.

Hoists—Portable—
Wright Mfg. Co.
Yale & Towne Mfg. Co.

Hooks for Rods and Tubing—
Dunn Mfg. Co.

Hose—
Fenwick-Reddaway Mfg. Co.

Hose—Drillers—
Goodrich, B. F. Rubber Co.
United States Rubber Co.

Hose—Oil Suction and Discharge
Goodrich, B. F. Rubber Co.
United States Rubber Co.

Hose—Rubber—
Goodyear Tire & Rubber Co.
United States Rubber Co.

Hot Rolled Strip Steel (See Steel)

Hydraulic Gate Valves (See Valves)—

Hydraulic Jacks (See Jacks)—

Hypochlorite of Lime—
Mathieson Alkali Works, Inc.

I

Insulation Materials—
Celite Products Co.
Johns-Manville, Inc.

Insurance—Fire—
Oil Insurance Association.

Insurance—Tornado—
Oil Insurance Association.

Iron—Ingot—
American Rolling Mill Co.

J

Jacks—Hydraulic—
Bridgeport Machine Co.

Jacks—Lifting—
Templeton, Kenly & Co., Ltd.

Jacks—Pumping—
American Well Works.
Bessemer Gas Engine Co.
Braden Co.
Frick-Reid Supply Co.
Jones S. M., Co.
Kansas City Hay Press Co.
Spang & Co.

Jars—
Bridgeport Machine Co.
Spang & Co.

Jar Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

K

Kerosene—
Acme Petroleum Co.
Empire Refiners, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Skelly Oil Co.

L

Lacquers—
Arco Company, The
Sherwin-Williams Co.

Lanterns—Electric—
Delta Electric Co.

Lead and Mixed Metal Products—
Eagle-Picher Lead Co.

Lead in Oil—
Eagle-Picher Lead Co.
National Lead Co.

Lead Wool and Containers—
Eagle-Picher Lead Co.

Lifting Jacks (See Jacks)—

Lightning Equipment—
Climax Engineering Co.
Pyle National Co.
Westinghouse Electric & Mfg. Co.

Liquid Level Controls (See Controllers)—

Lithrage—
Eagle-Picher Lead Co.
National Lead Co.

Loaders—Trucks—
Barber-Greene Co.

Long Distance Telephone—
American Telephone & Telegraph Co.

Lubricating Devices—
McCord Radiator & Mfg. Co.

Lubricating Oils (See Oils)—

Lubricators—
Ajax Iron Works.
Lukenheimer Co.

Lubricators—Force Feed—
Manzel Brothers Co.
McCord Radiator & Mfg. Co.

M

Machine Tools—
Ryerson, Jos. T., & Sons, Inc.

Manifolds—
Reid, Joseph, Gas Engine Co.

Metal Buildings Sectional (All Types (See Buildings)—

Meters—Gas—
Foxboro Co., Inc.
Metric Metal Works.
Pittsburgh Meter Co.
Roots, P. H. & F. M. Co.
Westcott and Greis.

Meters—Gasoline—
Pittsburgh Meter Co.

Meters—Oil—
Pittsburgh Meter Co.

Molded Goods—Rubber—
Goodyear Tire & Rubber Co.

Motor Controlled Apparatus (See Apparatus—Motor Control)—

Motors—Electric—
Fairbanks-Morse & Co.
Westinghouse Electric & Mfg. Co.

Motors—Gasoline (See Engines—Gasoline)—

Motor Trucks (See Trucks—Motor)—

N

Naptha—
Pure Oil Co.

Natural Gasoline(See Gasoline—Natural—

Natural Gasoline Plant Equipment
American Tank Co.
Campbell, J. A.
Continental Supply Co.
Cooper, C. & G., Co.
Griscom-Russell Co.
Roots, P. H. & F. M., Co.
Smith Separator Co.
Westcott & Greis.

Nitrogen—
Linde Air Products Co.

O

Oil and Gas Pipe Line Construction—
Hope Engineering & Supply Co.

Oil Burner (See Burners—Oil)—

Oil Engines, Semi-Diesel (See Engines—Semi-Diesel Oil)—

Oil Field Equipment—
Baker Casing Shoe Co.
Bridgeport Machine Co.
Continental Supply Co.
Cunningham Co.
Gaso Pump & Burner Mfg. Co.
International Derrick & Equipment Co.
Iron King Mfg. Co.
Kaw Boiler Works Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Reid, Joseph, Gas Engine Co.
Republic Supply Co.
Simplex Equipment Co.
Trumble Gas Trap Co.

Oil Filters—(See Filters—Oil)—

Oil—Fuel—
Acme Petroleum Co.
Crown Central Petroleum Corp.
Empire Refiners, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
The Texas Co.

Oil—Gas—
Acme Petroleum Co.
Crown Central Petroleum Corp.
Gulf Refining Co.
Pure Oil Co.
Sinclair Refining Co.
The Texas Co.

Oil—Lubricating—
Barnsdall Refining Co.
Berry's, James B. Sons Co.
Crown Central Petroleum Corp.
Empire Refiners, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pennzoil Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.
The Texas Co.

Oil—Tractor—
Barnsdall Refining Co.
Gulf Refining Co.
Pennzoil Co.
Pure Oil Co.
Skelly Oil Co.

Oiling Devices—
Lunkenheimer Co.

Oil Meters(See Meters)—

Oil Piping Equipment (See Fittings)—

Oil Reclaiming Process—
Barnickel, Wm. S., & Co.
Houston Pump & Supply Co.

Oil Refinery Equipment (See Refinery Equipment)—

Oil Securities (See Securities)—

Oil Suction and Discharge Hose—(See Hose)—

Oil Well Cementing—
Halliburton, Erle P.

Oil Well Screens (See Screens)—

Oil Well Tools—
D & B Pump & Supply Co.
Hinderliter Tool Co.
Reed Roller Bit Co.
Titusville Forge Co.
U. S. Tool Co.

Over Shots—
Reed Roller Bit Co.
Regan Forge & Engineering Co.

Oxygen—
Linde Air Products Co.

P

Packer Release—
Acme Fishing Tool Co.

Packers—
Goodyear Tire & Rubber Co.
Guiberson Corp.
Larkin & Co.
Layne & Bowler Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Spang & Co.
United States Rubber Co.

Packing—
Crane Packing Co.
Durabla Mfg. Co.
Garlock Packing Co.
Goodrich, B. F., Rubber Co.
Imperial Belting Co.
Johns-Manville, Inc.

Packing—Metallic—
Crane Packing Co.

Paint Guns—
Binks Spray Equipment Co.

Painting Equipment—Mechanical
Matthews, W. N., Corp.

Paints—
Aluminum Co. of America.
American Asphalt Paint Co.
Arco Company, The
Continental Supply Co.
Cook Paint & Varnish Co.
Dixon, Joseph Crucible Co.
Eagle-Picher Lead Co.
Eclipse Paint & Mfg. Co.
Sherwin-Williams Co.

Pipe—Cast Iron—
American Cast Iron Pipe Co.
Continental Supply Co.
Greenspon's Jos., Sons Iron & Steel Co.
International Supply Co.
U. S. Cast Iron Pipe & Fdy. Co.

Pipe—Lead Chemical and Antimonial—
Eagle-Picher Lead Co.

Pipe—Steel—
Greenspon's Jos., Sons Iron & Steel Co.
Jarecki Mfg. Co.
Kellogg, M. W., Co.
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Republic Iron & Steel Co.
Ryerson, Jos. T., & Son, Inc.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.

Pipe—Wrought Iron—
Byers, A. M., Co.
Frick-Reid Supply Co.
Greenspon's, Jos., Sons Iron & Steel Co.
Oil Well Supply Co.
Reading Iron Co.
Superior Tube Co.

Pipe and Nipple Threading Machines—
Bignall & Keeler Machine Works.
Cox & Sons Co., The
Landis Machine Co.
Ryerson, Jos. T., & Sons. Inc.
Standard Engineering Co.

Pipe Clamps (See Clamps—Pipe)

Pipe Fitting (See Fittings)—

Pipe Grips—
Larkin & Co.

Pipe Headers—
National Tube Co.
Newton Process Mfg. Co.

Pipe Line Construction Tools—
National Transit Pump & Machine Co.

Pipe Line Ditchers (See Ditchers)

Pipe Line Equipment)
Gaso Pump & Burner Mfg. Co.

Pipe Screwing Machines—
Buckeye Traction Ditcher Co.

Pipe Suspension Device—
Stearns-Roger Mfg. Co.

Pipe Threading Dies (See Dies)—

Pipe Tools—
Armstrong Brothers Tool Co.
Nye Tool & Machine Works.

Piping—Fabricated—
Kelly & Jones Co.
Midwest Piping & Supply Co.

Piping—Hard Rubber—
United States Rubber Co.

Piping—Steel & Iron—
Crane Co.
Greenspon's Jos., Sons Iron & Steel Co.
Power Piping Co.

Pistons—
Guiberson Corp.
Heppenstall Forge & Knife Co.

Pistons—Expansion—
Wilson Oil Tool Corp.

Pistons—Sluah Pump—
Guiberson Corp.

Plain End Pipe Couplings (See Couplings—Plain End Pipe)—

Plugs—Bottom Water—
Guiberson Corp.

Polish Rods (See Rods—Polish)—

Portable Drilling Rigs (See Rigs)

Power Pumps (See Pumps)—

Power Units —Portable (See Engines)—

Pre-Heaters—
Newton Process Mfg. Co.
Ross Heater & Mfg. Co.

Preservatives—Asphalt —
American Asphalt Paint Co.

Pulleys—Wood, Iron and Steel—
Dodge Mfg. Co.

Pulling Machines—
Iron King Mfg. Co.
National Supply Co.
Safety Pulling Machine Co.

Pumpers—Long Stroke—
Farley Machine Co.

Pumping and Pulling Motors—Electric—
Westinghouse Electric & Mfg. Co.

Pumping Equipment—
American Well Works.
Axelson Machine Co.
Bryson Jackson Pump Mfg. Co., Inc.
D & B Pump & Supply Co.
Farley Machine Co.
Gould & Mfg. Co.
Jones, S. M., Co.
Myers, F. E., Bro. & Co.
Northup Equipment Co.
Oil Well Supply Co.
Prescott Co.
Ratigan, J. P. Co.
Waukesha Motor Co.

Pumping Gear Units—
Nuttall, R. D., & Co.

Pumping Jacks (See Jacks)—

Pumping Powers—
Aldrich Pump Co.
Bessemer Gas Engine Co.
Buda Co.
Climax Engineering Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Hay Press Co.
Marion Mch., Fdy. & Supply Co.
National Supply Co.
Oil Well Supply Co.
Pattin Bros. Co.
Reid, Joseph, Gas Engine Co.
Spence Machine Co.
Titusville Iron Works Co.

Pumps—Air Lift—
Ingersoll-Rand Co.

Pumps—Boiler Feed—
Ajax Iron Works.
Byron Jackson Pump Mfg. Co. Inc.
Fairbanks-Morse & Co.
Gardner Governor Co.
Oil Well Supply Co.
Worthington Pump & Machinery Corp.

Pumps—Centrifugal—
American Well Works.
Byron Jackson Pump Mfg. Co. Inc.
Dean Hill Pump Co.
Fairbanks-Morse & Co.
Worthington Pump & Machinery Corp.

Pumps—Direct Driven—
Aldrich Pump Co.
Bessemer Gas Engine Co.

Pumps—Electric—
Prescott Co.

Pump—Fuel Oil Service—
Aldrich Pump Co.
Blackmer Pump Co.
Northern Fire Apparatus Co.

Pumps—Fuel Oil Transfer—
Aldrich Pump Co.
Byron Jackson Pump Mfg. Co. Inc.

Pumps—Gasoline and Oil for Filling Stations—
Gilbert & Barker Mfg. Co.

Pumps—Gear Driven—
Aldrich Pump Co.
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
Prescott Co.

Pumps—Hot Oil—
Byron Jackson Pump Mfg. Co., Inc.

Pumps—Pipe Line—
Aldrich Pump Co.
Byron Jackson Pump Mfg. Co., Inc.

Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
National Transit Pump & Machine Co.
Prescott Co.
Worthington Pump & Machinery Corp.

Pumps—Power—
Aldrich Pump Co.
Dean Brothers Co.
Fairbanks-Morse & Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Myers, F. E. Bro. & Co.
National Transit Pump & Machine Co.
Novo Engine Co.
Prescott Co.
Waukesha Motor Co.
Worthington Pump & Machinery Corp.

Pumps—Refinery—
Aldrich Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Dean Hill Pump Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Kinney Mfg. Co.
National Transit Pump & Machine Co.
Northern Fire Apparatus Co.
Worthington Pump & Machinery Corp.

Pumps—Rotary—
Blackmer Pump Co.
Northern Fire Apparatus Co.
Roots, P. H. & F. M. Co.

Pumps—Sand—
Bridgeport Machine Co.
Larkin & Co.

Pumps—Slush—
Gardner Governor Co.

Pumps—Steam—
Dean Brothers Co.
Fairbanks-Morse Co.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Prescott Co.

Pumps—Suction—
Gaso Pump & Burner Mfg. Co.

Pumps—Vacuum—
Bessemer Gas Engine Co.
Clark Brothers Co.
Gaso Pump & Burner Mfg. Co.
Miller Improved Gas Engine Co.
Roots, P. H. & F. M., Co.
Worthington Pump & Machinery Corp.

Pumps—Water—
Aldrich Pump Co.
American Well Works.
Byron Jackson Pump Mfg. Co., Inc.
Gaso Pump & Burner Mfg. Co.
Northern Fire Apparatus Co.
Prescott Co.

Purifiers—Oil Absorption—
Sharpless Specialty Co.

Pyrometers—
Brown Instrument Co.
Republic Flow Meters Co.

R

Ratchet Pipe Cutters—
Toledo Pipe Threading Machine Co.

Ratchet Pipe Threaders—
Nye Tool & Machine Works.
Toledo Pipe Threading Machine Co.

Ratchet Reamers—
Nye Tool & Machine Works.

Ratchet Stocks and Dies—
Nye Tool & Machine Works.
Toledo Pipe Threading Machine Co.

Ratchet Wrenches (See Wrenches)

Receiving Boxes—
Reid, Joseph, Gas Engine Co.

Recorders—Differential Pressure—
Metric Metal Works.

Refinery Equipment—
American Radiator Co.
Braun, C. F. & Co.
Carbondale Machine Co.
Chicago Bridge & Iron Works.
Graver Corp.
Griscom-Russell Co.
Kellogg, M. W., Co.
Newton Process Mfg. Co.
Petroleum Appliance Co.
Petroleum Iron Works Co.
Power Piping Co.
Power Specialty Co.
Reid, Joseph, Gas Engine Co.
Ross Heater & Mfg. Co., Inc.
Ross-Meehan Foundries.
Smith Separator Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.
United Iron Works, Inc.
Universal Oil Products Co.
Vogt, Henry, Machine Co.
Walsh & Weidner Boiler Co.
Westcott & Greis.

Refinery Pumps (See Pumps)—

Refractories—Furnace, Stills and Baffles—
Botfield Refractories Co.

Refrigerating Machinery—
Carbondale Machine Co.
Climax Engineering Co.
United Iron Works, Inc.
Vogt, Henry, Machine Co.

Regulators—
Fisher Governor Co., Inc.
Smith Separator Co.

Rental Service—
Bridgeport Machine Co.

Reversible Clutches—
Bessemer Gas Engine Co.

Rig Irons—
International Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.
Parkersberg Rig & Reel Co.

Rigs—Drilling, All Steel—
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

Rigs—Portable Drilling—
National Supply Co.
National Turnbuckle Derrick Co.
Star Drilling Machine Co.

River Clamps—(See Clamps)—

Rods—Polish—
Jones, S. M., Co.

Rods—Pull—
Axelson Machine Co.
Columbus Sucker Rod Co.
Jones, S. M., Co.
Sheffield Steel Corp.

Rods—Sucker—
Axelson Machine Co.
Columbus Sucker Rod Co.
D & B Pump & Supply Co.
Frick-Reid Supply Co.
Jones, S. M. Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Sheffied Steel Corp.

Rods—Valve—
Jones, S. M., Co.

Roofing—Asbestos—
Johns-Manville, Inc.

Rope Socket Metal—
Eagle-Picher Lead Co.

Rope—Manila—
Ajax Rope Co., Inc.
Bovaird Supply Co.
Republic Supply Co.

Rope—Wire—
Ajax Rope Co., Inc.
American Cable Co.
Bovaird Supply Co.
Bridgeport Machine Co.
Broderick & Bascom Rope Co.
International Supply Co.
Jarecki Mfg. Co.
Leschen, A. & Sons, Rope Co.
Wickwire-Spencer Steel Corp.

Rotary Bit Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

Rotary Disc Bits (See Bits)—

Rotary Drilling Equipment—
Climax Engineering Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Co.
International Derrick & Equipment Co.
Link-Belt Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Titusville Iron Works Co.

Rotary Drive Bushings (See Bushings—Rotary Drive)—

Rotary Lines (See Rope—Wire)—

Rotary Post—
Reed Roller Bit Co.

Rotary Rock Bits (See Bits)—

Rotary Tool Joints—
Bartlesville Supply Co.
Hughes Tool Co.

Rotary Ventilators (See Ventilators)—

Rubber Belting (See Belting)—

Rubber Hose (See Hose)—

Run Down Tanks—(See Tanks)—

Rust Preventatives—
Dearborn Chemical Co.
Eagle-Picher Lead Co.

S

Sand Lines—Manila—
Ajax Rope Co., Inc.

Sand Lines—Wire—
Ajax Rope Co., Inc.
Broderick & Bascom Rope Co.
Wickwire-Spencer Steel Corp.

Sand Pumps (See Pumps, Sand)

Screens—Oil Well—
Layne & Bowler Co.

Screens—Water Well—
Layne & Bowler Co.

Screw Tempers—
Burns Tool Co.

Seamless Steel Couplings — (See Couplings Seamless Steel)—

Separators—Centrifugal—
Miller, Max B., & Co.
Sharpless Specialty Co.

Separators—Gas and Oil—
Ameltron Tank Co.
Smith Separator Co.

Sheet Lead—Chemical and Antimonial—
Eagle-Picher Lead Co.

Sheets—Corrugated, Black and Galvanized—
American Sheet & Tin Place Co.
Ryerson, Jos. T., & Son., Inc.
United Alloy Steel Corp.

Sheets—Steel—
American Sheet & Tin Plate Co.
Republic Iron & Steel Co.
Sheffied Steel Corp.
United Alloy Steel Corp.

Shingles—Asbestos—
Johns-Manville, Inc.

Sleeves—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Sleeves—Split—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Slush Pump Pistons (See Pistons)—

Slush Pumps—(See Pumps)—

Smoke Stacks—
Donovan Boiler Works

Snuffers—Fire—
Simplex Equipment Co.

Sockets—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Spang & Co.

Sockets—Wire Rope—
Chicago Steel Foundry Co.

Soda Ash—
Mathieson Alkali Works, Inc.

Soda—Caustic—
Mathieson Alkali Works, Inc.

Solders—Bar and Wire—
Eagle-Picher Lead Co.

Spark Plugs—
Mosier Metal Products Corp.

Spears—
Acme Fishing Tool Co.
Brown Welding & Machine Co.

Special Steel (See Steel Special)—

Split Sleeves (See Sleeves)—

Sprockets—Power Transmission—
Ajax Iron Works.
Chain Belt Co.

Stands—Vise—
Nye Tool & Machine Works.

Stationary Pipe Threading Die Heads (See Die Heads)—

Steam Pumps—(See Pumps)—

Steel—All Kinds—
Ryerson, Jos. T., & Son, Inc.

Steel—Alloy—
Central Steel Co.
Timken Roller Bearing Co.
United Alloy Steel Corp.

Steel—Bit—
Central Steel Co.

Steel—Hot Rolled Strip—
Central Steel Co.

Steel—Special—
Central Steel Co.
United Alloy Steel Corp.

Steel Band Wheels (See Band Wheels—Steel)—

Steel Bridges—(See Bridges)—

Steel Bull Wheels—(See Bull Wheels—Steel)—

Steel Castings (See Castings)—

Steel Couplings for Casing, Line Pipe, Drill Pipe and Tubing (See Couplings)—

Steel Crown Blocks—(See Crown Blocks)—

Steel Derricks—(See Derricks)—

Steel Fabricators—Structural—
Austin Co.
Braden Co.
Graver Corp.
International Derrick & Equipment Co.

Steel Fittings (See Fittings)—

Steel Pitmans—
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.
Slater Brothers Turnbuckle Derrick Co.

Steel Plate Construction—
Chicago Bridge & Iron Works
Graver Corp.
Kaw Boiler Works Co.
Petroleum Iron Works Co.
Tulsa Boiler & Machinery Co.
Vogt, Henry, Machine Co.

Steel Sheets (See Sheets, Steel)—

Steel Valves (See Valves—Steel)—

Steel Walking Beams (See Walking Beams—Steel)—

Steel Wheels and Tug Rims—
International Derrick & Equipment Co.

Stills—
Chicago Bridge & Iron Works
Graver Corp.
Kaw Boiler Works Co.
Kellogg, M. W., Co.
Newton Process Mfg. Co.
Petroleum Iron Works Co.
Vogt, Henry, Machine Co.

Stocks & Dies—
Borden Co.
Nye Tool & Machine Works.
Toledo Pipe Threading Machine Co.

Structural Steel Fabricators (See Steel Fabricators)—

Stuffing Boxes—
Axelson Machine Co.
Kansas City Hay Press Co.

Sucker Rods (See Rods—Sucker)

Suction Pumps—(See Pumps)—

Sulphuric Acid—
Eagle-Picher Lead Co.

Swabs—
Guiberson Corp.
Hoffman Mfg. Co.
Saunders Bros.
Simplex Equipment Co.

Swedge Nipples—
Dresser, S. R., Mfg. Co.
Harrisburg Pipe & Pipe Bending Co.

Swivels—
Layne & Bowler Co.
Lucey Mfg. Corp.
Titusville Iron Works Co.

T

Tank Cars (See Cars—Tanks)—

Tank Cars Leased (See Cars)—

Tank Equipment—
Oil Conservation Engineering Co.

Tanks—Bolted—
American Tank Co.
Butler Mfg. Co.
Gantz Tank Co.
Maloney Tank Mfg. Co.
Parkersburg Rig & Reel Co.

Tanks—Bulk Station—
Graver Corp.

Tanks—Cylindrical—
Petroleum Iron Works Co.

Tanks—Elevated Steel—
Chicago Bridge & Iron Works

Tanks—Field Storage—
American Car & Foundry Co.
American Tank Co.
Donovan Boiler Works.
Graver Corp.
Kaw Boiler Works.
Kewanee Boiler Co.
Maloney Tank Mfg. Co.
Petroleum Iron Works Co.
Pittsburg-Des Moines Steel Co.
Riter-Conley Co.
Tulsa Boiler & Machinery Co.
United Iron Works, Inc.

Tanks—Horizontal Storage—
Graver Corp.
Kaw Boiler Works Co.
Maloney Tank Mfg. Co.

Tanks—Run Down—
Donovan Boiler Works
Graver Corp.
Kaw Boiler Works Co.
Newton Process Mfg. Co.

Tanks—Truck—
American Tank Co.
Butler Mfg. Co.
White Co.

Tanks—Underground—
Butler Mfg. Co.
Gilbert & Barker Mfg. Co.
Graver Corp.
Kewanee Boiler Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.

Tanks—Welded—
American Tank Co.
Chicago Bridge & Iron Works
Gantz Tank Co.

Taper Taps—
Hughes Tool Co.

Tapes—Measuring for Oil Gauging—
Lufkin Rule Co.

Temperature Controllers (See Controllers—Temperature)—

Temper Screws (See Screws)—

Thermometers—Indicating and Recording—
American Schaeffer & Budenberg Corp.
Bristol Co.
Taylor Instrument Co.

Threading Machines—
Bignall & Keeler Machine Wks.
Cox & Sons Co., The
Landis Machine Co.

Thread Protectors—
Spang & Co.

Tires—Automobile—
Continental Supply Co.

Tongs—
Bridgeport Machine Co.
Wilson Oil Tools Corp.

Tongs—Back Up—
Williams, J. H., & Co.

Tongs—Break Out—
Reed Roller Bit Co.
Williams, J. H., & Co.

Tongs—Casing—
Dunn Mfg. Co.
Guiberson Corp.

Tongs—Chain Pipe—
Williams, J. H., & Co.

Tongs—Pipe—
National Transit Pump & Machine Co.

Tongs—Rotary—
Dunn Mfg. Co.

Tongs—Tool Joint—
Guiberson Corp.
Hughes Tool Co.
Reed Holler Bit Co.

Tongs—Tubing—
Dunn Mfg. Co.

Tool Chests—Pipe—
Nye Tool & Machine Works.

Tool Joints—
Bridgeport Machine Co.
Federal Supply Co.
Hughes Tool Co.
Lucey Mfg. Corp.
Oil Well Supply Co.
Regan Forge & Engineering Co.

Tool Joint Tongs (See Tongs)—

Tools—Fishing and Drilling (See Drilling and Fishing Tools)—

Tools—Oil Well Drilling (See Drilling and Fishing Tools)—

Torches—
Oxweld Acetylene Co.

Tractor Oil (See Oil —Tractor)—

Tractors—
International Harvester Co. of America.
Rock Island Plow Co.

Transmission Belt—Rubber—
Goodrich, B. F. Rubber Co.
United States Rubber Co.

Transmission Lining—
Stanley Belting Corp.

Traveling Block—
Lucey Mfg. Corp.
Regan Forges & Engineering Co.
Wright Mfg. Co.

Trenches—Vertical Boom—
Barber-Greene Co.

Trucks—Motor—
Ford Motor Co.
General Motors Truck Co.
International Harvester Co. of America.
White Co.

Truck Tanks (See Tanks)—

Truck Tires (See Tires—Truck)—

Tubes—Boiler, Charcoal Iron—
Byers, A. M., Co.
Reading Iron Co.

Tubes—Boiler Steel—
National Tube Co.
Ryerson, Jos. T., & Son, Inc.

Tubing—
Babcock & Wilcox Tube Co.
Byers, A. M., Co.
Central Tube Co.
National Tube Co.
Reading Iron Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.

Tubing Catchers—
Dunn Mfg. Co.
Guiberson Corp.

Tubing Elevators (See Elevators, Casing and Tubing)—

Tubular Goods—
Oil Well Supply Co.
Republic Iron & Steel Co.
Spang, Chalfant & Co., Inc.

Tubular Goods—Wrought Iron—
Byers, A. M., Co.
Reading Iron Co.

Turbines for Lighting Equipment
Lucey Mfg. Corp.
Westinghouse Electric & Mfg. Co.

Turbine Generators (See Generators—Turbine)—

Turnbuckle Derricks (See Derricks)—

U

Underground Tanks (See Tanks)

Underreamer Bit Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

Underreamer Cutter Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

Underreamers—
Bridgeport Machine Co.
Brown Welding & Machine Co.
Guiberson Corp.
Wilson Oil Tools Corp.

Unions—
Continental Supply Co.
Kelly & Jones Co.

V

Vacuum Pumps (See Pumps)—

Valuations—
American Appraisal Co.

Valves—Blow-off—
Homestead Valve Mfg. Co.

Valves—Brass and Bronze—
Homestead Valve Mfg. Co.
Kelly & Jones Co.
Lunkenheimer Co.
Reading Steel Castipg Co.
Walworth Mfg. Co.

Valves—Cast Steel—
Chapman Valve Mfg. Co.
Homestead Valve Mfg. Co.

Valves—Check—
Gaso Pump & Burner Mfg. Co.
Lunkenheimer Co.

Valves—Drop Forged Steel—
Edward Valve & Mfg. Co.
Vogt, Henry, Machine Co.

Valves—Gate—High and Low Pressure—
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Darling Valve & Mfg. Co.
Kelly & Jones Co.
Kennedy Valve Mfg. Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Murray Tool & Supply Co.
Pittsburgh Reinforced Brazing & Machine Co.
Powell, Wm., Co.

Valves—Iron—
Chapman Valve Mfg. Co.
Lunkenheimer Co.
Reading Steel Casting Co.

Valves—Metal Pump—
Durbla Mfg. Co.

Valves—Pump—
United States Rubber Co.

Valves—Relief—Supersensitive—
Davis Regulator Co.

Valves—Steel—
Chapman Valve Mfg. Co.
Edward Valve & Mfg. Co.
Kelly & Jones Co.
Lunkenheimer Co.
Metric Metal Works.
Pittsburgh Reinforced Brazing & Machine Co.
Powell, Wm., Co.
Reading Steel Casting Co.

Valves—Tank Vent—
Oil Conservation Engineering Co.

Valves—Working Barrel—
Atlas Ball Co.
Axelson Machine Co.
D & B Pump & Supply Co.
Hough, Charles N., Mfg. Co.
Northup Equipment Co.
Oil Well Supply Co.

Varnishes—
Arco Company, The
Sherwin-Williams Co.

Ventilators—Rotary—
Swartwout Co.

Vises—Bench—
Nye Tool & Machine Works.

Vises—Pipe—
Nye Tool & Machine Works.

Vises—Post—
Nye Tool & Machine Works.

W

Wagons—Truss Wheel—
Athey Truss Wheel Co.

Walking Beams—Steel—
Moore, Lee C., & Co., Inc.

Water Gauge Cocks (See Cocks)—

Water Pumps (See Pumps)—

Water Softeners and Filters—
Graver Corp.

Water Well Screens (See Screens)

Wax—
Barnsdall Refining Co.
Gulf Refining Co.
Pure Oil Co.

Weight Indicators—
Hughes Tool Co.

Welded Tanks (See Tanks)—

Welding Accessories—Electric—
Wilson Welder & Metals Co.

Welding and Cutting Apparatus—
Oxweld Acetylene Co.

Welding Machines—Electric—
Wilson Welder & Metals Co.

Welding Supplies—
Oxweld Acetylene Co.

Welding Wire—
Frick-Reid Supply Co.
Oxweld Acetylene Co.
Wilson Welder & Metals Co.

Well Drilling and Fishing Tools—(See Drilling and Fishing Tools)—

Well Drilling Equipment (See Drilling Equipment)—

Well Shooting—
Eastern Torpedo Co.
Zero Hour Torpedo Co.

Wheels—Pipe Cutter—
Nye Tool & Machine Works.

Wheel—Steel Automotive—
Budd Wheel Co.

Winches—
Braden Co.
Oil Conservation Engineering Co.

Wire Lines (See Cables—Steel)—

Wire Rope (See Rope—Wire)—

Wood Patterns and Models—
Gaso Pump & Burner Mfg. Co.

Working Barrels—
Axelson Machine Co.
D & B Pump & Supply Co.
Franklin Vaiveless Engine Co.
Frick-Reid Supply Co.
Hough, Charles N., Mfg. Co.
McGregor Working Barrel Co.
Northrup Equipment Co.
Oil Well Supply Co.

Working Barrel Valves (See Valves—Working Barrel)—

Wrenches—Closet Spuds—
Nye Tool & Machine Works.

Wrenches—Drop Forged—
Williams, J. H., & Co.

Wrenches—Pipe—
Trimont Mfg. Co.
Walworth Mfg. Co.

Wrenches—Ratchet—
Dresser, S. R., Mfg. Co.
Nye Tool & Machine Works.

Z

Zinc Oxide—
Eagle-Picher Lead Co.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for January, 1926

Runs

	Month	Da. Av.
*Prairie Pipe Line Co.	3,782,000	122,000
Gulf Pipe Line Co.	1,110,284	35,814
Texas Pipe Line Co.	563,707	18,184
Magnolia Petroleum Co.	1,096,747	35,347
Cosden Pipe Line Co.	786,626	25,372
Empire Pipe Line Co.	693,036	22,356
Sinclair Pipe Line Co.	1,594,454	51,434
*Other lines	7,285,000	235,000
Total January	16,910,854	545,507
Total December	17,429,716	562,249

Shipments

†Prairie Pipe Line Co.	4,187,390	135,077
Gulf Pipe Line Co.	1,114,750	35,960
Texas Pipe Line Co.	544,921	17,578
Magnolia Petroleum Co.	1,267,082	40,873
Cosden Pipe Line Co.	935,599	30,181
Empire Pipe Line Co.	741,950	23,931
†Sinclair Pipe Line Co.	2,533,723	81,733
*Other lines	7,843,000	253,000
Total January	19,168,415	618,333
Total December	20,050,761	646,863
Difference	882,346	28,530

Stocks

	Bbls.
*Prairie Oil & Gas Co.	27,300,000
*Prairie Pipe Line Co.	2,000,000
Gulf Pipe Line & Gypsy Oil Co.	6,660,284
The Texas Co.	4,469,047
Magnolia Petroleum Co.	5,744,000
Cosden Pipe Line Co.	1,698,657
Empire Pipe Line Co.	2,966,141
*Sinclair Crude Oil Purchasing Co.	22,000,000
Carter Oil Co.	15,480,643
*Other lines	10,000,000
Total January	98,258,772
Total December	99,352,522
Difference	1,093,750

*Estimated.

†Prairie shipments also include Texas crude oil and Sinclair shipments include also Wyoming and Texas crude oil.

Note—Stocks do not include approximately 5,900,000 bbls. held in storage on private tank farms and leases.

EASTERN PIPE LINES

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for December and January:

	Dec. '25	Jan. '26
Nat. Transit	142,875.10	143,083.02
S. W. Pa. P. L.	31,352.71	77,636.84
Eureka P. L.	349,600.31	328,099.81
Buckeye P. L. (Macksburg)	314,284.81	279,450.58
Buckeye P. L. (Cleveland)	11,199.41	11,364.93
Buckeye P. L. (Lima, etc.)	115,800.20	117,302.17
Indiana P. L.	8,529.02	8,872.25
Cumberland P. L.	273,857.20	264,029.33
N. Y. Transit	19,369.10	18,738.53
Tidewater P. L.	143,964.94	145,119.51
Pure Oil	173,742.21	168,182.43
Emery P. L.	49,321.62	48,775.97
Indian Ref.	77,197.35	80,966.82
Paragon Dev.	28,798.89	36,760.32
Pittsburgh P. L.	7,289.93	6,141.78
Total	1,797,182.81	1,724,524.19
Daily average	57,973.64	55,629.81

Note—Indian Refining Co. also reported other recipts of 288,251.87 bbls. Paragon Refining Co. had other receipts of 144,823.43 bbls. Paragon Development had other receipts of 2,718.44 bbls. Pure Oil had other receipts of 50,636.85 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for December and January:

	Dec. '25	Jan. '26
Nat. Transit	443,017.16	288,806.28
S. W. Pa. P. L.	351,978.59	366,562.67
Eureka P. L.	170,749.37	164,947.59
Buckeye P. L. (Macksburg)	119,399.63	117,122.01
Buckeye P. L. (Cleveland)	971.01	1,122.83
Buckeye P. L. (Lima, etc.)	817,463.26	786,501.04
Indiana P. L.	996,091.56	1,163,995.13
Cumberland P. L.	142,888.09	102,188.71
N. Y. Transit	531,362.75	708,005.50
Northern P. L.	122,381.61	135,305.06
Tidewater P. L.	182,574.09	107,972.03
Pure Oil	183,467.60	224,858.49
Emery P. L.	45,573.06	41,988.56
Paragon Ref.	102,961.36	161,272.07
Indian Ref.	406,210.42	428,138.88
Paragon Dev.	31,017.50	31,314.40
Pittsburgh P. L.	6,434.64	7,640.10
Total	4,655,030.57	4,837,741.24
Daily average	150,162.27	156,056.20

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of December and January, were as follows:

	Dec. '25	Jan. '26
Nat. Transit	971,135.56	1,010,068.01
S. W. Pa. P. L.	703,426.32	705,514.46
Eureka P. L.	1,499,699.85	1,503,389.89
Buckeye P. L. (Macksburg)	247,415.66	235,515.41
Buckeye P. L. (Cleveland)	82,324.62	72,532.50
Buckeye P. L. (Lima, etc.)	3,358,078.18	2,773,898.18
Indiana P. L.	532,830.05	536,488.64
Cumberland P. L.	579,400.56	607,313.30
Southern P. L.	479,734.35	497,782.56
N. Y. Transit	756,602.76	659,952.29
Northern P. L.	481,708.84	449,498.69
Pure Oil	409,869.56	400,945.59
Emery P. L.	24,726.50	20,761.95
Paragon Ref.	65,041.84	48,043.84
Indian Ref.	275,004.53	218,689.98
Paragon Dev.	5,999.82	4,800.92
Pittsburgh P. L.	5,555.61	4,084.15
Total	10,458,445.36	9,859,170.36
Increase	609,712.29	599,275.00

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of December and January showing the gross stocks of the above fields:

	Dec. '25	Jan. '26
Penna.	3,842,589.45	3,862,226.25
Lima	1,070,027.70	1,025,702.95
Kentucky	1,140,119.24	1,137,665.71
Mid-Continent	4,324,754.42	3,717,998.58
Illinois	80,954.55	55,576.87
Total	10,458,445.36	9,859,170.36

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1923	1924	1925	1926
January	76,799	63,638	56,831	58,630
February	71,092	68,023	60,606	.....
March	76,592	68,721	60,576	.....
April	75,614	71,058	62,062	.....
May	77,365	63,942	59,217	.....
June	77,592	63,230	61,270	.....
July	71,879	64,208	62,639	.....
August	76,910	59,942	59,686	.....
September	72,358	62,930	62,510	.....
October	76,256	64,976	60,995	.....
November	70,762	56,283	59,350	.....
December	69,271	55,814	57,974	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1923	1924	1925	1926
January	171,067	145,513	157,889	156,054
February	164,219	148,723	160,563	.....
March	185,487	147,098	154,591	.....
April	170,751	147,611	151,429	.....
May	177,102	134,997	146,995	.....
June	173,592	143,019	149,467	.....
July	168,330	124,187	161,338	.....
August	142,776	123,130	161,730	.....
September	137,266	127,325	156,719	.....
October	134,597	123,170	145,385	.....
November	131,426	124,400	143,582	.....
December	139,909	151,392	150,162	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1924	1925	1926
January	12,907,302	11,353,276	9,859,170
February	11,844,068	11,192,924	.....
March	10,906,752	11,158,297	.....
April	10,922,742	11,063,082	.....
May	11,336,309	11,207,562	.....
June	11,544,204	11,093,796	.....
July	12,062,361	11,067,453	.....
August	12,221,676	10,974,481	.....
September	12,206,836	10,781,753	.....
October	12,644,061	11,086,850	.....
November	12,368,530	11,068,158	.....
December	11,583,630	10,458,445	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above.

1925—	Receipts	Shipmts.	Stocks
January	1,730.86	1,681.15	12,938.48
February	2,702.05	4,564.70	11,075.83
March	3,177.21	2,354.30	11,989.74
April	3,040.41	1,780.11	13,159.04
May	2,814.99	5,719.90	10,254.13
June	3,052.75	1,221.83	12,085.05
July	2,632.24	3,174.19	11,550.29
August	3,216.97	1,577.99	13,188.27
September	2,929.99	5,352.05	10,767.21
October	2,869.75	1,499.24	12,137.62
November	2,759.66	2,571.32	12,283.40
December	2,661.87	3,441.67	11,503.60

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, Feb. 1	2,334,826.01
Runs from wells	638,209.44
Other receipts	532,451.44
Regular deliveries	464,680.43
Other deliveries	426,430.81

The amount of Illinois oil run by the Tidewater Pipe Co. in January was 27,034.18 bbls. and deliveries were 31,403.33 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1925—		
February	636,635.20	514,661.52
March	754,335.68	611,348.49
April	622,866.14	637,242.85
May	692,671.94	568,572.62
June	700,090.46	589,535.24
July	724,481.26	564,713.19
August	673,652.38	650,649.97
September	706,434.87	610,697.61
October	706,532.00	633,652.32
November	664,556.30	488,449.19
December	665,086.99	578,938.47
1926—		
January	665,243.62	516,083.76

The Tidewater Pipe Co., Ltd., also delivered in January 146,142.52 bbls. of Oklahoma oil. The total deliveries of all grades by the Tidewater were 305,517.85 bbls.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
October	3,065	4,258	20,484	9,806	5,161	42,774	.....	2,258	.....	.....	2,258	45,032
November	7,032	9,419	14,258	12,993	9,161	52,773	.....	.....	5,032	806	5,838	58,611
December	6,226	12,129	28,452	20,193	9,677	76,677	.....	4,839	4,871	.....	9,710	86,387
January	9,355	13,484	33,581	19,387	5,097	79,804	.....	.....	.....	65	65	79,869

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
October	21,387	13,548	39,419	6,290	22,968	103,612	25,000	29,677	1,936	2,903	59,516	163,128
November	18,935	4,193	45,774	9,806	33,419	112,127	12,613	26,484	7,516	6,000	52,613	164,740
December	12,806	20,548	35,613	15,064	30,613	114,644	13,129	25,387	6,935	5,516	50,967	165,611
January	12,451	19,434	49,451	12,648	21,903	116,934	21,903	25,871	5,645	4,871	58,290	174,224

GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
February:	Month	16,869,232	13,905,730	11,232,593	2,466,660	2,886,296	1,556,914	2,676,325	2,957,000	54,551,412
	Daily average	602,494	496,635	401,164	88,095	103,082	55,604	95,583	105,606	1,948,264
March:	Month	18,626,019	14,403,716	13,062,907	2,824,524	3,564,473	1,807,559	2,734,235	3,202,000	60,225,443
	Daily average	600,839	464,636	421,384	91,114	114,983	58,308	88,201	103,290	1,943,756
August:	Month	21,005,580	14,441,040	11,695,365	2,971,110	7,560,230	1,767,077	2,744,691	3,084,000	62,837,576
	Daily average	677,599	465,840	423,179	99,037	252,008	58,903	91,490	102,800	2,094,586
May:	Month	18,820,328	14,443,675	13,077,697	3,493,366	11,813,996	1,836,752	2,799,542	3,167,300	69,803,556
	Daily average	607,107	465,925	421,861	112,686	381,097	60,863	90,308	102,171	2,242,018
June:	Month	19,288,135	13,832,970	13,602,540	3,229,440	9,200,372	1,830,965	2,754,498	3,389,000	66,127,920
	Daily average	642,938	461,099	420,085	107,648	306,679	61,032	91,816	109,000	2,204,264
July:	Month	20,411,049	14,263,565	12,337,598	3,686,675	7,835,819	1,898,178	3,129,199	3,348,000	66,910,083
	Daily average	658,421	460,115	397,984	118,925	252,768	61,231	100,942	108,000	2,158,390
August:	Month	21,005,580	14,441,040	11,936,079	3,568,027	7,450,580	1,858,643	3,250,448	3,177,000	64,677,357
	Daily average	677,599	465,840	385,032	114,777	240,341	56,727	104,853	102,484	2,150,883
September:	Month	20,062,762	14,825,040	11,264,890	3,393,270	6,457,950	1,776,570	3,235,625	3,213,000	64,228,108
	Daily average	668,759	494,168	375,496	113,109	215,265	59,219	107,854	107,067	2,140,937
October:	Month	20,015,076	14,931,199	11,196,511	3,477,146	6,409,281	1,871,830	3,394,990	3,348,000	64,534,033
	Daily average	645,648	481,329	361,178	112,166	206,751	60,382	109 500	104,774	2,081,743
November:	Month	19,095,907	14,590,980	10,650,087	3,221,760	5,927,955	1,758,882	3,088,121	2,992,000	61,325,692
	Daily average	636,530	486,366	355,003	107,397	197,599	58,629	102,937	99,753	2,044,190
December:	Month	19,249,711	14,123,848	10,930,455	3,308,816	6,047,883	1,763,966	3,187,164	3,036,900	61,693,742
	Daily average	620,959	455,608	352,595	106,736	195,093	56,902	102,812	98,552	1,990,282
January:	Month	19,069,562	13,674,813	10,880,814	3,250,536	5,489,630	1,606,952	3,136,280	3,075,200	60,183,778
	Daily average	615,147	441,123	350,994	104,856	177,084	51,835	101,170	99,200	1,941,090
Total 12 months		230,473,617	171,482,076	141,867,536	38,881,300	80,644,455	21,384,188	36,131,128	37,938,400	758,802,700
Daily average		631,435	469,814	388,673	106,522	220,943	58,586	98,990	103,941	2,078,913

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